

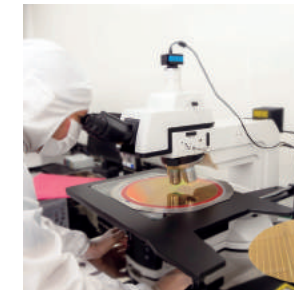
# GAS & FLAME DETECTION SYSTEM

**GAS**TRON

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](http://www.gastron.com)



**GAS**TRON



# 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)  
 Colorimetric Gas Detector  
 Open Path Gas Detector  
 Portable Gas Detector  
 Vision Gas Camera & Thermal Imaging Camera  
 Alarm Signalling / Manual Call Point  
 Flame Detector  
 Acid Leak Detection Paint  
 Safety Shield

**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

1990

**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)



2000

**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

**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)

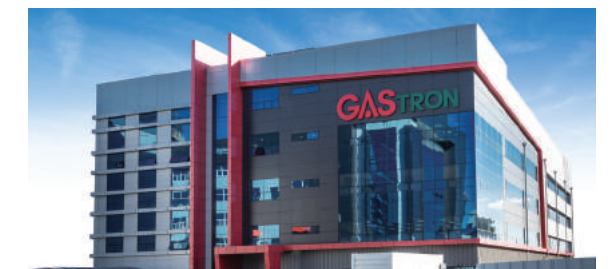
**2016**

Acquired ISO14001 and OHSAS18001 certification

2018

**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

24



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

42



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

## Open Path Gas Detector

52



SafEye Quasar 900

## Gas Detector Receiver

56



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

## Colorimetric (ChemLogic) Gas Detection Monitor

66



DOD64 FTIR / ChemLogic 96 / ChemLogic 8  
CLPX

## Portable Gas Detector

80



G-Finder Single / GPD-100 / TANGO TX1  
GasBadge Pro / VENTIS MX4 / VENTIS PRO  
MX6 iBrid / RADIUS BZ1 / iNet® Now

## Flame Detector & Ultrasonic Gas Leak Detector

92



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

## Alarm Signalling / Manual Call Point

106



GTL-200 / BExBG Series / MB005  
BExS Series / MA112 / BExCP3A /  
BExCP3B Series

## Calibration Gas / Safety Product

116



Can Gas / Cylinder / Acid Leak Detection paint  
Safety Shield

## Gas Monitoring System Configuration

122



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



# Fixed Type Multi Gas Detector

**GASTRON**

**GTM-1000**

Fixed Type Freon, Flammable MULTI Gas Detector

**GTM-2000**

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





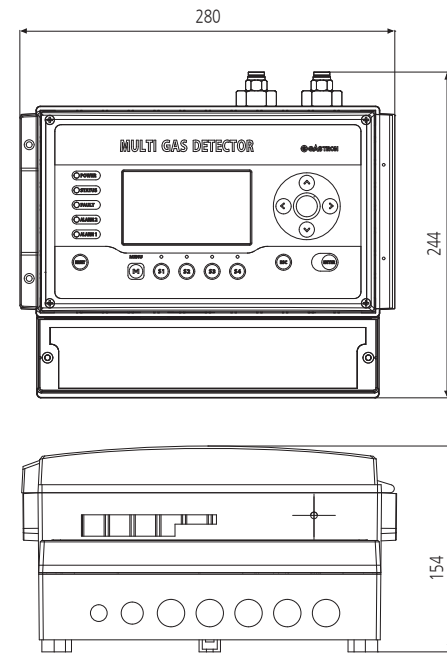
## GTM-1000 Fixed Type Freon, Flammable MULTI Gas Detector

| 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



### 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
Measuring 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 Ethernet) (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°C ~ +50°C			
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			

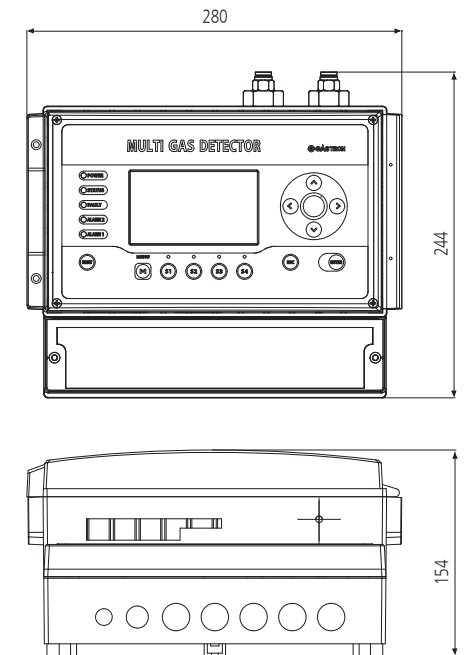
## GTM-2000 Fixed Type Freon, Flammable, Oxygen & Toxic MULTI Gas Detector

| 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



### 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
Measuring 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 Ethernet) (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°C ~ +50 °C		
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 System LNG 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 °C
Measuring	Flammable Gas: CH4 / 0~100%LEL 0~100%Vol Oxygen: O2 / 0~30%Vol
CERTIFICATION	
MED / KR	Refer to website

## Fixed Gas Sampling System Crude 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
- User / Administration mode
- Log-in function
- Touch screen
- Easy timing regulating
- Display of all sampling points
- Easy expandability
- Record gas alarm data

### 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 °C
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

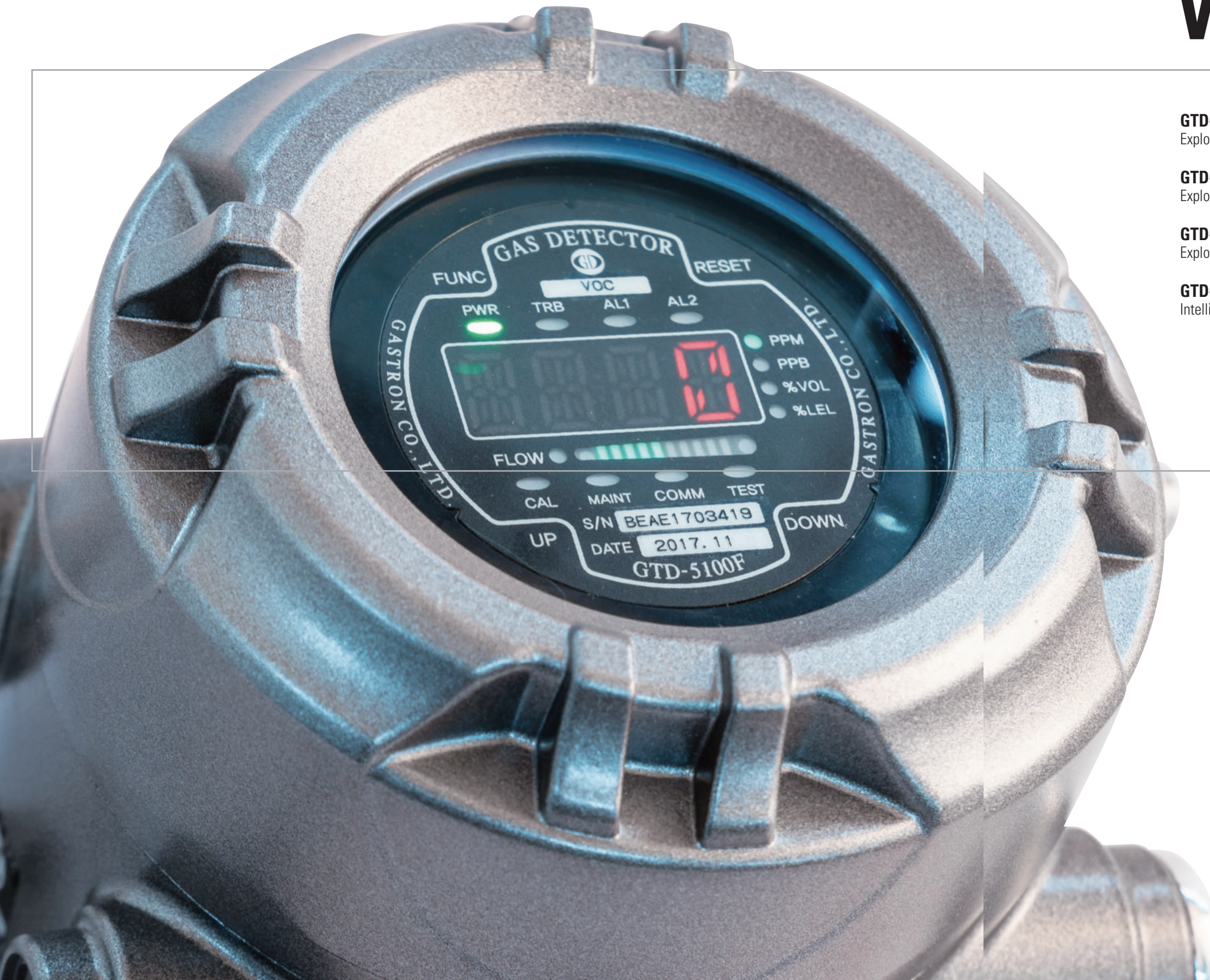
## **GTD-2000Tx**

Explosion Proof Type Diffusion VOC Gas Detector

## **GTD-5000**

Intelligent & Sampling Type VOC Gas Detector

**GASTRON**





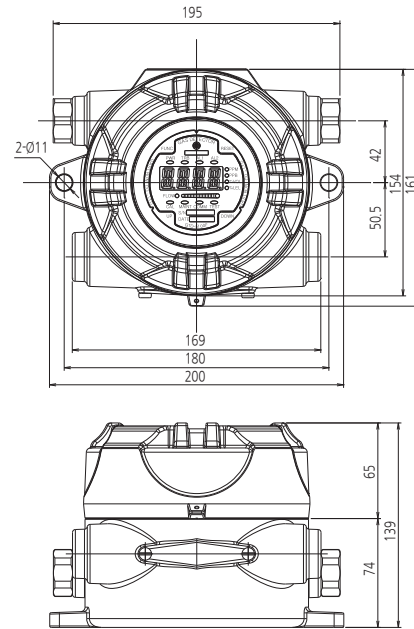
### GTD-5100F Explosion Proof Type Sampling VOC Gas Detector

| 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 |

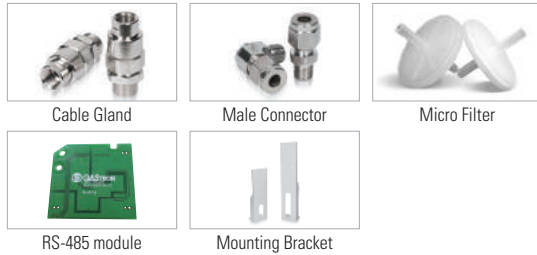
#### IMAGE



#### 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) or Semiconductor cell
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", M20 x 1.5P, M25 x 1.5P
Mounting type	Wall mount
Operating temperature	-20°C ~ +60 °C
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

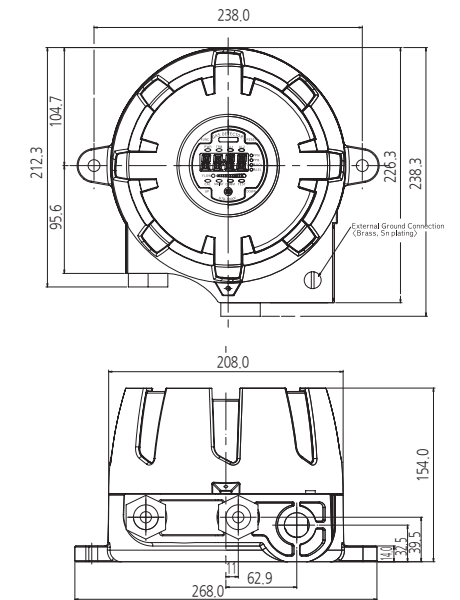
### GTD-5000F Explosion Proof Type Sampling VOC Gas Detector

| 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 |

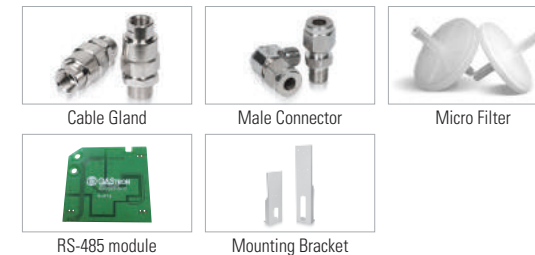
#### IMAGE



#### 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) or Semiconductor cell
Measuring 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°C ~ +60 °C
Operating humidity	5 to 99% RH (Non-condensing)
Material	ALDC
Dimensions	226.3(W) x 154(H) x 238(D) mm
Weight	5kg
CERTIFICATION	
KCs	Ex d IIC T6      NEPSI      Ex d IIB+H2 T6/T5 Gb
ATEX / IECEx	CE / KFI / KC      Refer to website



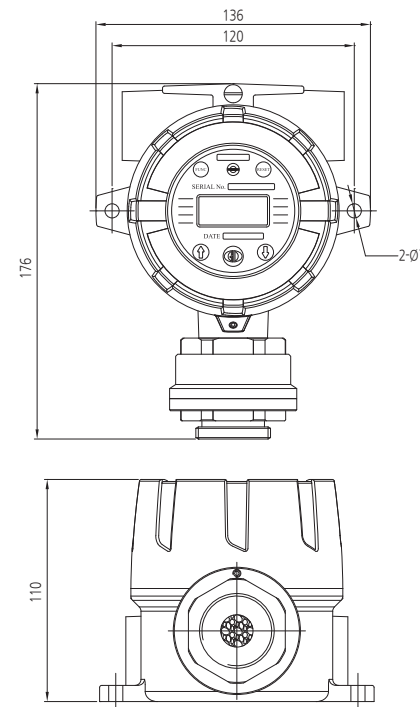
### GTD-2000Tx Explosion Proof Type Diffusion VOC Gas Detector

| 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

※ Specifications are subject to be changed without prior notice.

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) or Semiconductor cell
Measuring 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", NPT3/4", M20 x 1.5P, M25 x 1.5P
Mounting type	2" Pole mount, Wall mount, Option
Operating temperature	-40°C ~ 80°C
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°C, Ex d IIC T6, T5, T4 ATEX / IECEx Ex db IIC Gb T6, T5, T4

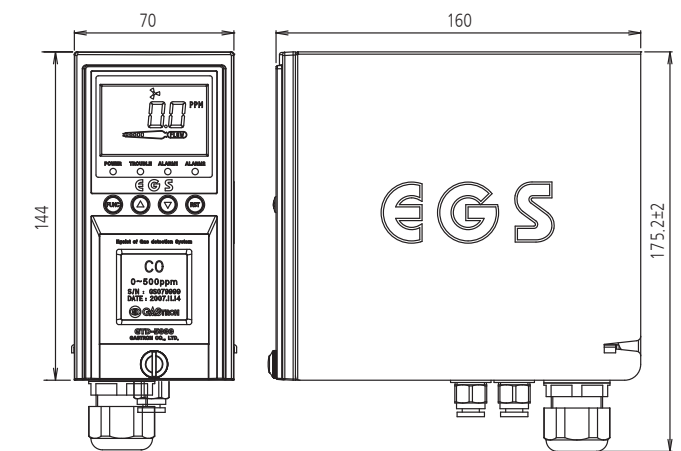
### GTD-5000 Intelligent & Sampling Type VOC Gas Detector

| 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 |

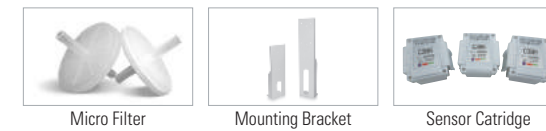
#### IMAGE



#### DIMENSION (Unit : mm)



#### ACCESSORIES



#### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

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) or Semiconductor cell
Measuring 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°C ~ +60 °C
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





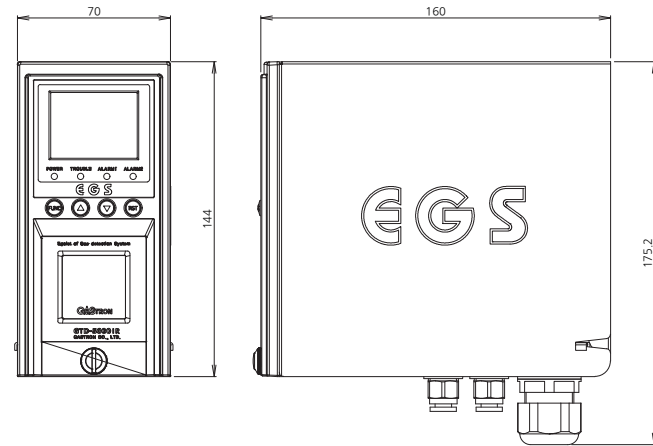
### GTD-5000 Non Flame proof Type interference gas filtering gas detector

| 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 |

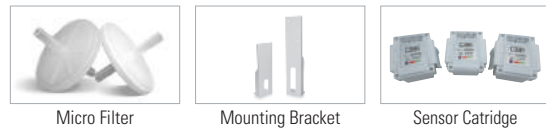
#### IMAGE



#### DIMENSION (Unit : mm)



#### ACCESSORIES



#### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

NON FLAME PROOF TYPE 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		
Measuring 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°C ~ +50°C		
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		

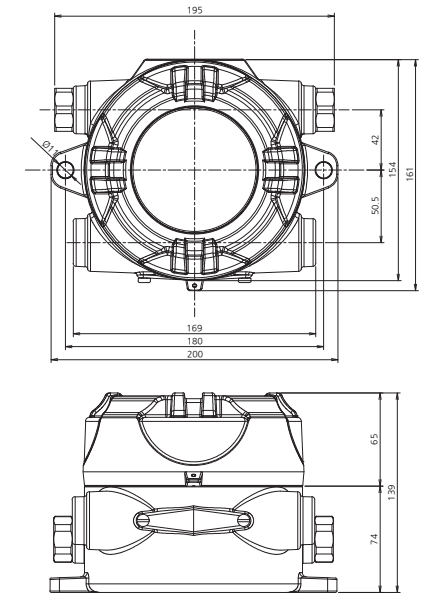
### GTD-5100F Explosion Proof Type interference gas filtering gas detector

| 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



#### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

FLAME PROOF TYPE INTERFERENCE GAS FILTERING GAS DETECTOR			
Model	GTD-5100F		
Measuring gas	Freon gas	Flammable gas	Toxic gases ( COS, TEOS )
Measuring type	Auto Sampling type		
Measuring method	Infra - red		
Measuring 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°C ~ +60°C		
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

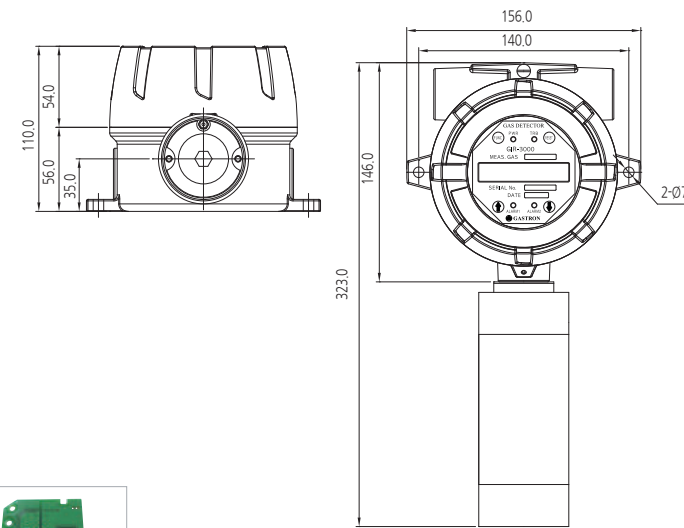
### GIR-3000 Explosion Proof Type Diffusion Infrared Gas Detector

Continuous detection of flammable, CO<sub>2</sub>, CO and N<sub>2</sub>O 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 |

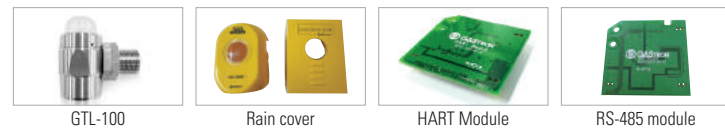
#### IMAGE



#### 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)		CO <sub>2</sub>	CO
Measuring type	Diffusion type			
Measuring method	Infrared type			
Measuring range	0-100% LEL	0-9999ppm	0-100% Vol	0-5.0% Vol
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
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°C ~ +80°C			
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	
NEPSI	Ex d IIC T6 Gb		UL	
CR / MED / ABS / DNV / KC / KFI / CE / HART / SIL2 / PESO / TRCU ex / IEC 60079-29-1:2008 / CPA			Class I, Division 1, Groups A,B,C,D	
			Refer to website	

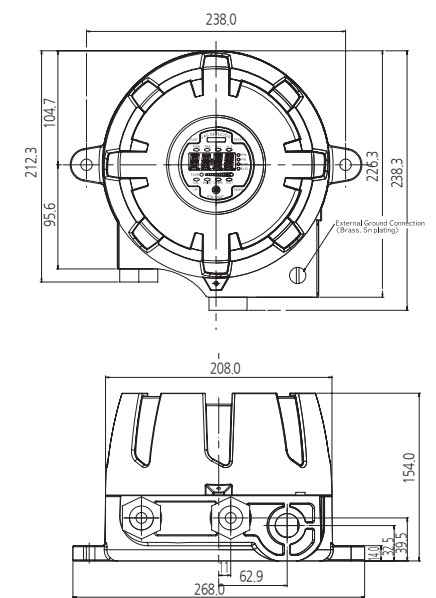
### GTD-5000F Explosion Proof Type Sampling Infrared Gas Detector

Continuous detection of flammable, CO<sub>2</sub>, CO and N<sub>2</sub>O 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)		CO <sub>2</sub>	CO, N <sub>2</sub> O
Measuring type	Auto Sampling type			
Measuring method	Infrared type			
Measuring range	0-100% LEL	0-5000ppm	0-100% Vol	0-5.0% Vol
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", M20 x 1.5P, M25 x 1.5P	
Mounting type	Wall mount			
Operating temperature	-40°C ~ +60°C			
Operating humidity	5 to 99% RH (Non-condensing)			
Material	ALDC			
Dimensions	226.3(W) x 154(H) x 238(D) mm			
Weight	5kg			
CERTIFICATION				
KCs	Ex d IIC T6		NEPSI	
ATEX / IECEx	Ex d IIB+H2 T6, T5 Gb		CE / KFI / KC / CPA	
			Ex d IIB+H2 T6, T5 Gb	
			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, Buthane & etc) CO2 CO, N2O
Measuring type	Diffusion type
Measuring method	Infrared type
Measuring 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 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(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°C ~ +75°C
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



**GAS**TRON

**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

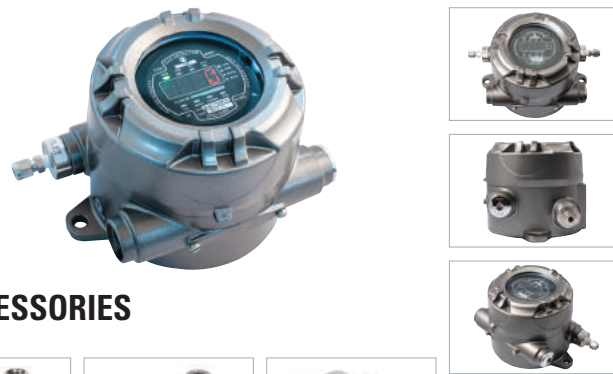
**GTD-6000**  
Gas Receiver Combination Flammable Gas Detector



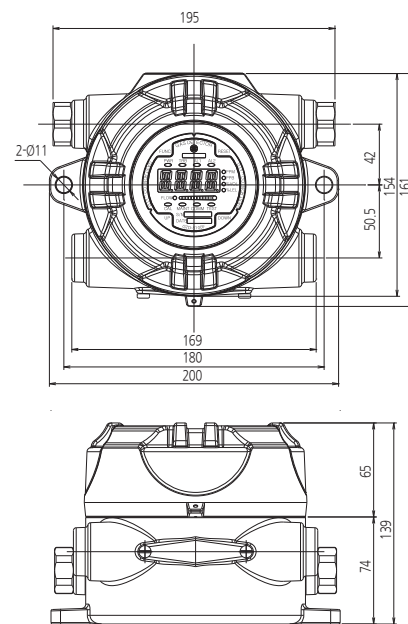
## GTD-5100F Explosion Proof Type Sampling Flammable Gas Detector

| 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 |

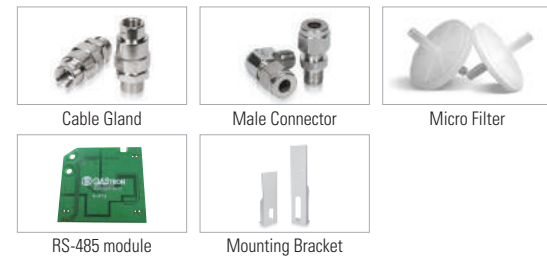
### IMAGE



### DIMENSION (Unit : mm)



### ACCESSORIES



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF & SAMPLING TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-5100F		
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
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°C ~ + 60°C		
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

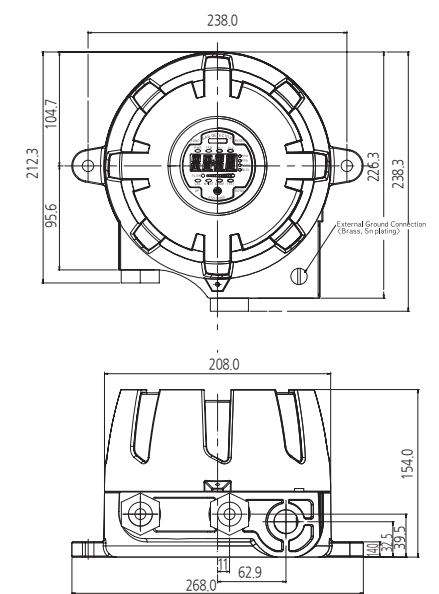
## GTD-5000F Explosion Proof Type Sampling Flammable Gas Detector

| 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 |

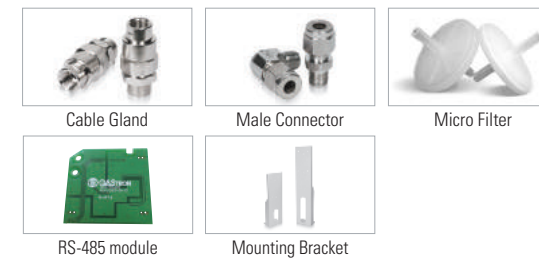
### IMAGE



### DIMENSION (Unit : mm)



### ACCESSORIES



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

EXPLOSION PROOF & SAMPLING TYPE FLAMMABLE GAS DETECTOR			
Model	GTD-5000F		
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
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	-40°C ~ + 60°C		
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

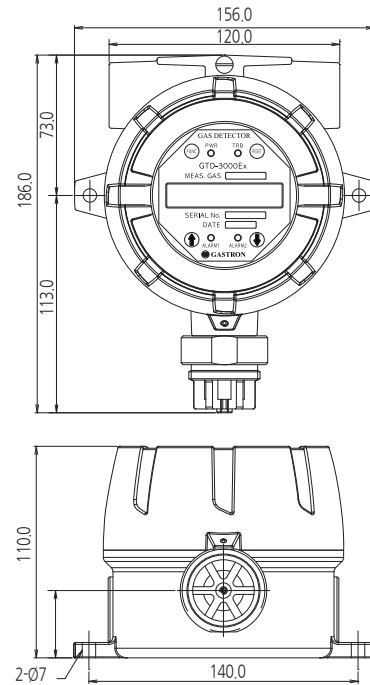
## GTD-3000Ex Intelligent Flammable Gas Detector

| 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		
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% / 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 Maintenance signal : 3mA DC Calibration signal : 3mA DC Fault signal : 0mA DC Digital : RS-485 Modbus(Optional)		
Conduit connection	RS-485 data communication cable : 1 pair (UL2919 RS-485) / 1000m max		
Mounting type	Standard : PF 3/4" Option : NPT 1/2", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Operating temperature	2" Pole mount, Wall mount, Duct mount		
Operating humidity	-20°C ~ +60°C		
Dimensions	5 - 99% RH (non-condensing)		
Weight	156(W) x 186(H) x 110(D)mm		
	1.8kg		
CERTIFICATION			
KCs	Ex d IIC T6	NEPSI	Ex d IIC T5 Gb
CE / KC / CPA	Refer to website		

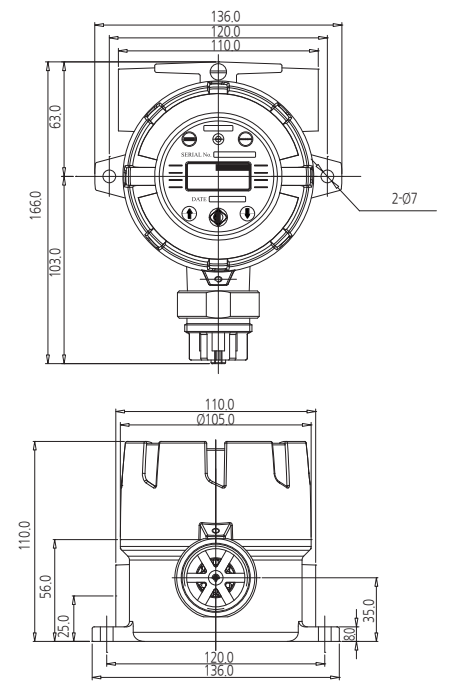
## GTD-2000Ex Smart Diffusion Flammable Gas Detector

| 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% / 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", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-40°C ~ +80°C		
Operating humidity	5 - 99% RH (non-condensing)		
Dimensions	136(W) x 166(H) x 110(D)mm		
Weight	1.5kg		
CERTIFICATION			
KCs	Ex tD A21 IP66 T85°C, Ex d IIC T6, T5, T4	ATEX / IECEx	Ex db IIC Gb T6, T5, T4
NEPSI	Ex d IIC T5 Gb		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		



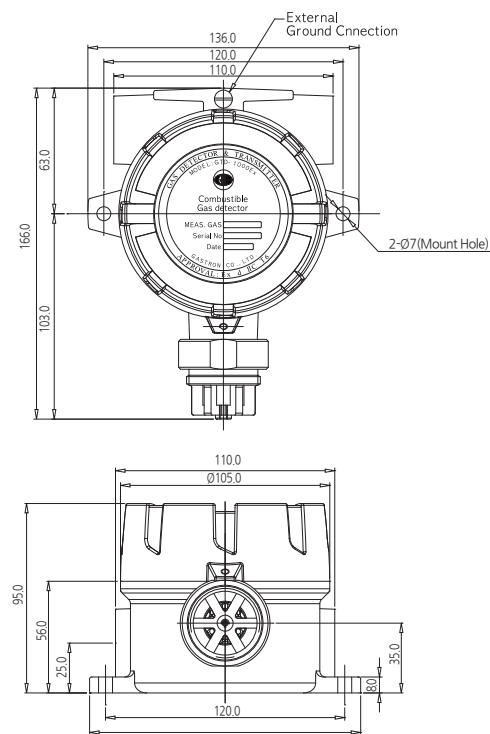
## GTD-1000Ex Transmitter Diffusion Flammable Gas Detector

| 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°C ~ +50°C		
Operating humidity	5 ~ 99% RH (non-condensing)		
Dimensions	136(W) x 166(H) x 95(D)mm		
Weight	1.2kg		
Material	Housing : ALDC, SUS316(Optional) / Sensor : SUS316		
CERTIFICATION			
KCs	Ex d IIC T6	KFI / CE	Refer to website

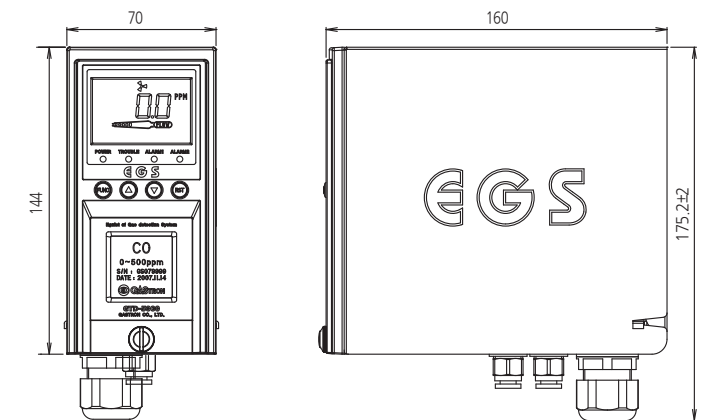
## GTD-5000 Sampling Flammable Gas Detector

| 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 |

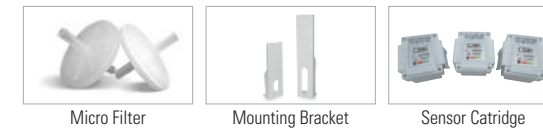
### IMAGE



### DIMENSION (Unit : mm)



### ACCESSORIES



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & SAMPLING TYPE FLAMMABLE GAS DETECTOR				
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°C ~ +60°C			
Operating humidity	5 to 99% RH (Non-condensing)			
Material	Front(Poly carbonate), Sides(Steel)			
Dimensions	Standard type : 70(W) x 144(H) x 160(D) mm			
Weight	Standard type : 2.5kg			
CERTIFICATION				
CE / CPA	Refer to website			



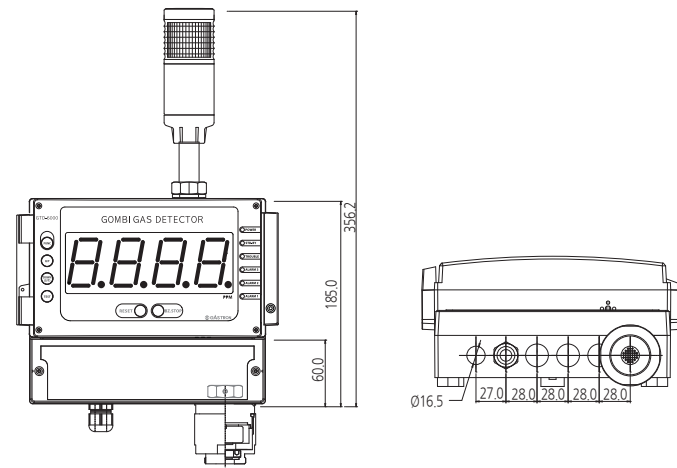
## GTD-6000 Gas Receiver Combination Flammable Gas Detector

| 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 |

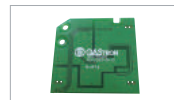
### IMAGE



### 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, H <sub>2</sub> , 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 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      Maintenance signal : 3mA DC      Calibration signal : 3mA DC Fault signal : 0mA DC      Digital : RS-485 Modbus (Option)
Distance	4 - 20mA DC Signal : 2000m / RS-485 Modbus Signal : 1000m
Mounting type	Wall mount
Operating temperature	-20°C ~ +60°C
Operating humidity	5 to 99% RH (Non-condensing)
Material	Detector(ABS), Sensor(PVC), Alarm unit(Poly carbonate)
Dimensions	235.6(W) x 355.5(H) x 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



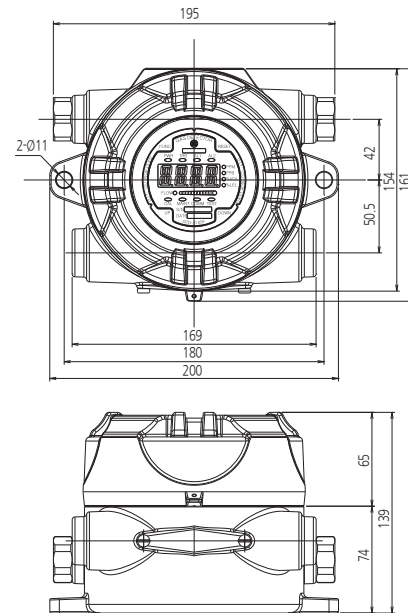
### GTD-5100F Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

| 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

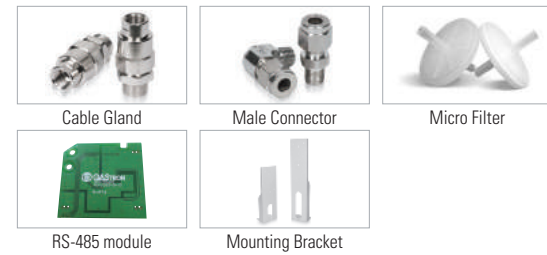
#### IMAGE



#### DIMENSION (Unit : mm)



#### ACCESSORIES



#### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

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	Galvanic cell or Electrochemical cell	Electrochemical cell	
measuring	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale	< 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", M20 x 1.5P, M25 x 1.5P	
Mounting type	Wall mount		
Operating temperature	-20°C ~ + 60°C		
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

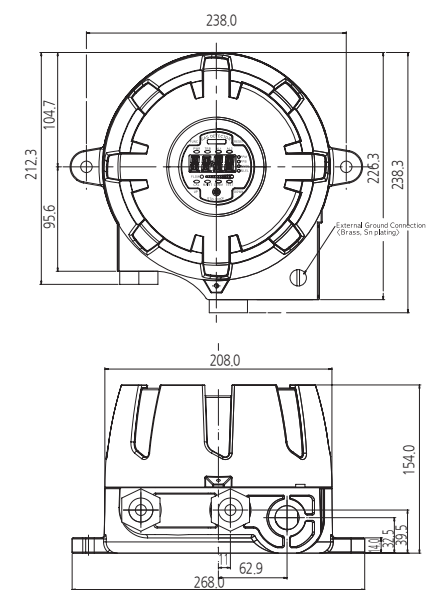
### GTD-5000F Explosion Proof Type Sampling Oxygen & Toxic Gas Detector

| 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

※ Specifications are subject to be changed without prior notice.

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	Galvanic cell or Electrochemical cell	Electrochemical cell	
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale	< 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", M20 x 1.5P, M25 x 1.5P	
Mounting type	Wall mount		
Operating temperature	-40°C ~ + 60°C		
Operating humidity	5 to 99% RH (Non-condensing)		
Material	ALDC		
Dimensions	226.3(W) x 154(H) x 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



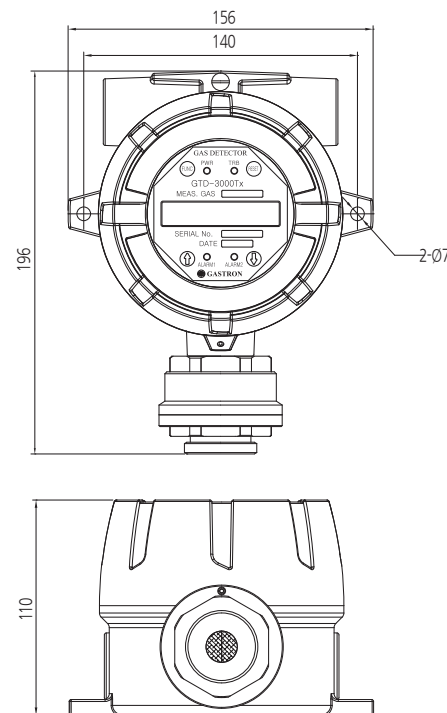
## GTD-3000Tx Intelligent Diffusion Oxygen & Toxic Gas Detector

| 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	O <sub>2</sub>	Toxic gases(CO, Cl <sub>2</sub> , NH <sub>3</sub> & etc)	
Measuring type	Diffusion type		
Measuring method	Galvanic cell or Electrochemical cell	Electrochemical cell	
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale	< 45sec / 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 Maintenance signal : 4mA DC Calibration signal : 3mA DC Fault signal : 0mA DC Digital : RS-485 Modbus(Optional)		
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°C ~ +60°C		
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		

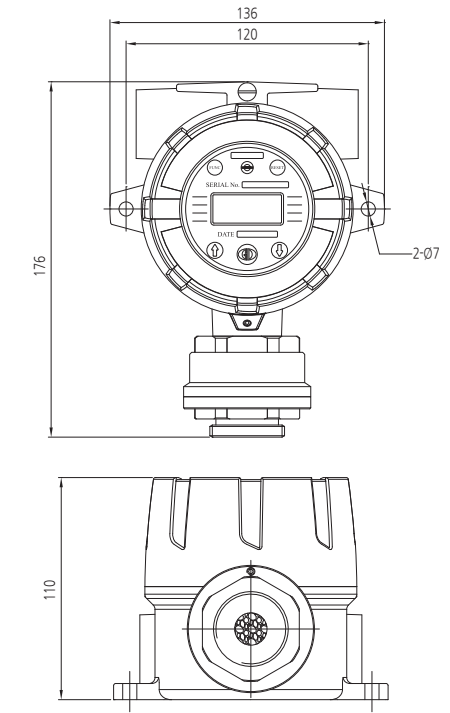
## GTD-2000Tx Smart Diffusion Oxygen & Toxic Gas Detector

| 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	O <sub>2</sub>	Toxic gases(CO, Cl <sub>2</sub> , NH <sub>3</sub> & etc)	
Measuring type	Diffusion type		
Measuring method	Galvanic cell or Electrochemical cell	Electrochemical cell	
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale	< 45sec / 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 Maintenance signal : 4mA 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", NPT3/4", M20 x 1.5P, M25 x 1.5P		
Mounting type	2" Pole mount, Wall mount, Duct mount		
Operating temperature	-40°C ~ +80°C		
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°C, Ex d IIC T6, T4	ATEX / IECEx	Ex db IIC Gb T6, T4
NEPSI	Ex d IIC T6 Gb		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		



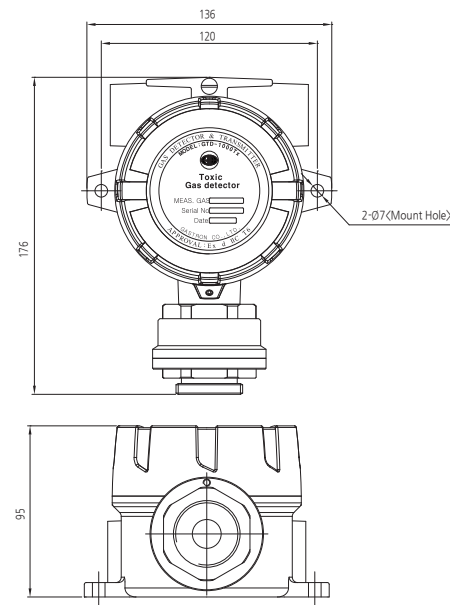
### GTD-1000Tx Transmitter Diffusion Oxygen & Toxic Gas Detector

| 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	O <sub>2</sub>		Toxic gases(CO, Cl <sub>2</sub> , NH <sub>3</sub> & etc)
Measuring type		Diffusion type	
Measuring method	Galvanic cell or Electrochemical cell		Electrochemical cell
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale		< 45sec / 90% scale
Accuracy	±3% / Full scale		
Output signal	4-20mA DC		
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°C ~ +50°C		
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

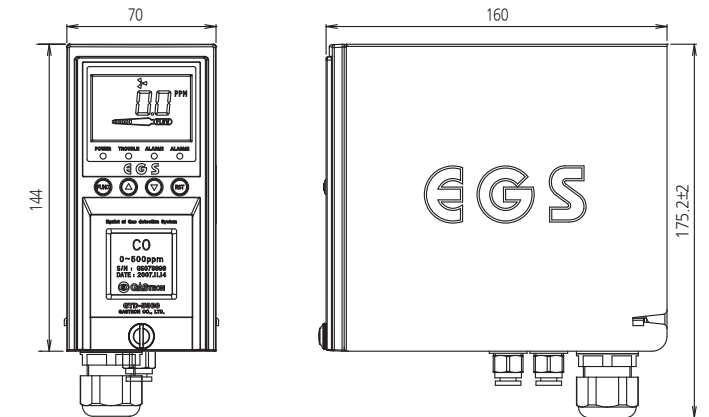
### GTD-5000 Sampling Oxygen & Toxic Gas Detector

| 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 |

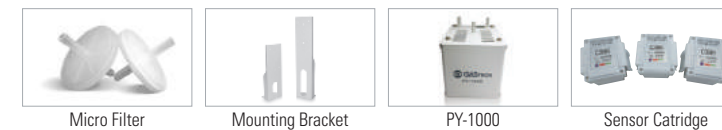
#### IMAGE



#### 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	O <sub>2</sub>		Toxic gases(CO, Cl <sub>2</sub> , NH <sub>3</sub> & etc)
Measuring type	Auto Sampling type		
Measuring method	Galvanic cell or Electrochemical cell		Electrochemical cell
Measuring range	Refer to Toxic Gas Measuring Range		
Response time	< 15sec / 90% scale		< 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°C ~ +60°C		
Operating humidity	5 to 99% RH (Non-condensing)		
Material	Front(Poly carbonate), Sides(Steel)		
Dimensions	Standard type : 70(W) x 144(H) x 160(D) mm		Pyrolyzer type(PY-1000) : 70(W) x 242.5(H) x 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		



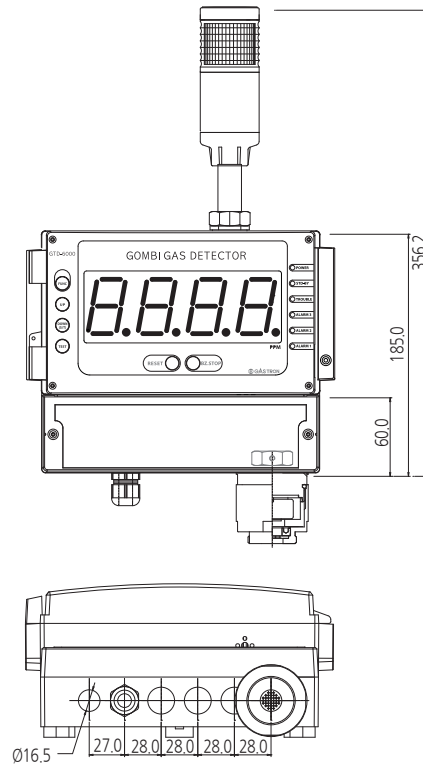
## GTD-6000 Gas Receiver Combination Oxygen & Toxic Gas Detector

| 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	O <sub>2</sub> Toxic gases(CO, Cl <sub>2</sub> , NH <sub>3</sub> & etc)
Measuring type	Diffusion type
Measuring method	Galvanic cell or Electrochemical cell Electrochemical cell
Measuring range	Refer to Toxic Gas Measuring Range
Response time	< 15sec / 90% scale < 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°C ~ +60°C
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







# Open Path Gas Detector

SafEye Quasar 900  
Infrared Open Path Gas Detector

GASTRON



## SafEye Quasar 900 Infrared Open Path Gas Detector

Quasar 900 is totally immune to interference from sunlight or any other sources of radiation such as flare stacks, arc welding or lightning. The high power xenon lamp will compensate for changing weather conditions, including rain, fog, mist, snow and makes it immune to influences from solar radiation, arc-welding, stack flares or vibration from machinery. Quasar 900 is approved to SIL2 (IEC61508), equipped with heated optics and tolerates a very wide temperature range to provide reliable detection. No unrevealed failures. In normal operation, the output signal is 4 to 20 mA, depending on the measured gas concentration. Sub-4mA signals includes indications for beam blockage (2mA), a fault (1mA) In addition

### IMAGE



### ACCESSORIES



Alignment Telescope  
Magnetic Mode Selector  
Function Check Filters (2)  
Set of Socket keys for access to units



Sunshade(SUS)  
Tilt Mount Pole  
Mount(U-Bolt, 5 inch)

### SPECIFICATION

GENERAL SPECIFICATIONS					
	Model	901	902	903	904
Detection Range	Fett	23-66	50-132	115-330	265-660
	Meter	7-20	15-40	35-100	80-200
Detected Gas		C1-C8			
Response Time		3 sec.			
Immunity to False Alarm		Not influenced by solar radiation, hydrocarbon flames and other external IR radiation sources.			
Sensitivity Range		0-5 LEL.m Methane and Propane	0-8 LEL.m Ethylene		
Spectral Response		2.0 - 3.0µm			
Displacement/Misalignment Tolerance		±0.5°			
Drift		±7.5% of the reading or ±4% of the full scale (whichever is greater)			
Minimum Detectable Level		0.15 LEL.m			
Temperature Range		-67°F (-55°C) to 149°F (65°C)			
Humidity		Up to 95% non-condensing (withstands up to 100% RH for short periods)			
Heated Optics		To eliminate condensation and icing on the window			
Warranty		Safety system - 3 years	Flash source bulb - 10 years		

※ Specifications are subject to be changed without prior notice.

ELECTRICAL SPECIFICATIONS				
Power Supply	24VDC nominal (18-32 VDC)			
Power Consumption	Detector: 250mA (300mA Peak)			
(peak includes heated optics)	Source: 250mA (300mA Peak)			
Warm Up Time	30 sec for transmitter and receiver			
Electrical Connection (specify)	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5mm ISO			
Electrical Input Protection	per MIL-STD-1275B			
Electromagnetic Compatibility	EMI/RFI protected per EN50270			
OUTPUTS - INTERFACES				
0-20mA Current Output	Sink (source option) configuration			
	Maximum load	500 ohm at 18-32 VDC	Misalignment	2.5mA
	Gas reading	4-20mA	Obscuration/beam block	2mA
	Normal, zero reading	4mA	Zero calibration mode	1mA
Maintenance call	3mA	fault	0mA	
RS-485 Interface - Modbus Compatible	The RS-485 input/output provides complete data information to a PC and receives control commands from the PC or handheld unit			
HART	HART communications on 0-20mA analog current (FSK) - used for maintenance and asset management			
Visual Status Indicator	3 color LED: Green - Power on, Yellow - Fault, Red - Alarm			
MECHANICAL SPECIFICATIONS				
Hazardous Area Approval	ATEX / IECEx approved per	Ex d e ib [ib Gb] IIB + H2 T4 Gb Ex tb IIIC T135°C Db The detector or source units have a combination of approvals. Each is a single enclosure (Exd) with integral, segregated rear terminal section (Exe) and intrinsically safe (Exia) data-port for external in-situ connection to Hand-Held Diagnostic unit.		
	FM / FMC	Approved per Class I Div 1 Groups B, C and D / Class II,III Div 1 Groups E, F and G		
Performance	Approved per FM6325 and tested by FM per EN60079-29-4			
Reliability	SIL2 per IEC61508 (TUV)			
Enclosure	The source and detector housings are stainless steel 316L with electro polish finish. The circuit boards are conformal coated and protected from mechanical vibrations. The tilt mount is also stainless steel 316L.			
Dimensions	Detector/Source 10.5 x 5.1 x 5.1 inch (267 x 130 x 130mm) Tilt Mount 4.7 x 4.7 x 5.5 inch (120 x 120 x 158mm)			
Weight	Detector/Source 11lb (5kg) Tilt Mount 4.2lb (1.9kg)			
Water and Dust Tight	IP66 and IP68 NEMA 250 6P			
Environmental	Meets MIL-STD-810C for Humidity, Salt and Fog, Vibration, Mechanical Shock, High and Low Temperature			



**GASTRON**

# Gas Detector Receiver

**ASC-100W**  
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





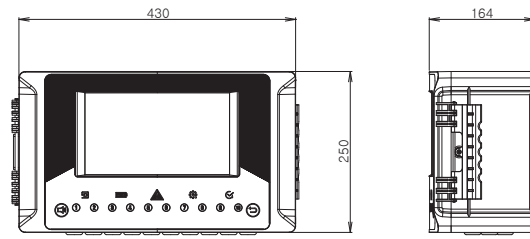
## ASC-100 Safety Controller

| 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)

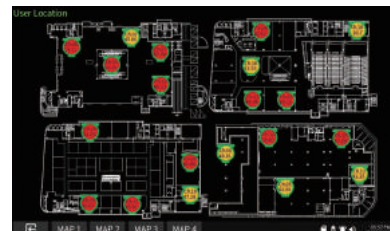


### ACCESSORIES



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°C ~ +55°C	
Operating humidity	5 ~ 95% RH	
IP Grade	IP65	
AC Power	AC 110/220 V 50 - 60 Hz ± 6% / Max 150W	
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

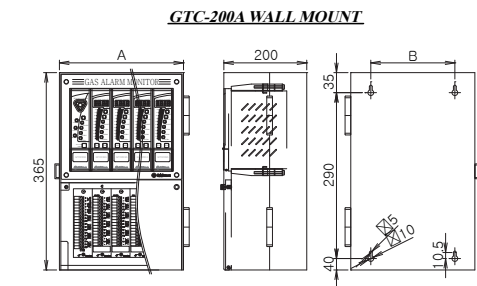
## GTC-200A Series Multi Channel Gas Detector Receiver

| 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

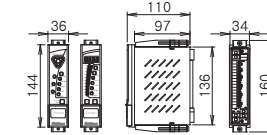


Back-up power unit

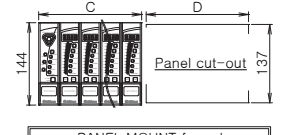


RS-485 module

#### GTC-200A CARD UNITS



#### GTC-200A PANEL MOUNT



PANEL MOUNT formula	
C	= (Number of channel cards + 1) x 36
D	= C - 1

### SPECIFICATION

Model	MULTI-CHANNEL TYPE GAS DETECTOR RECEIVER GTC-200A SERIES	
	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°C ~ +60°C
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



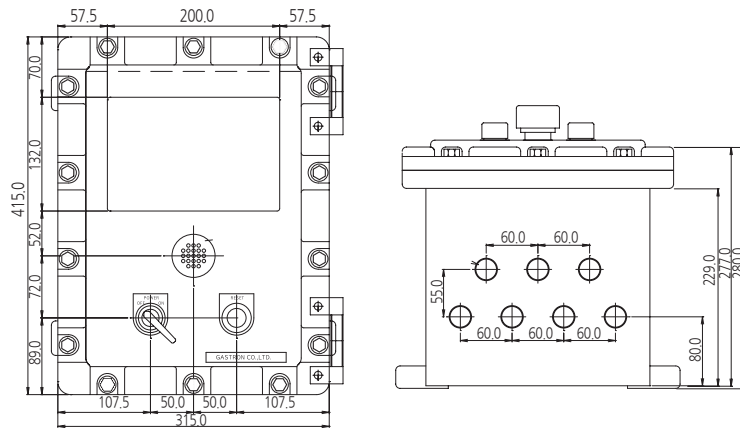
## GTC-200F Series Multi Channel Explosion Proof Type Gas Detector Receiver

| 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 PROOF TYPE 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°C ~ +40°C	
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  
(Back-Up Power unit)

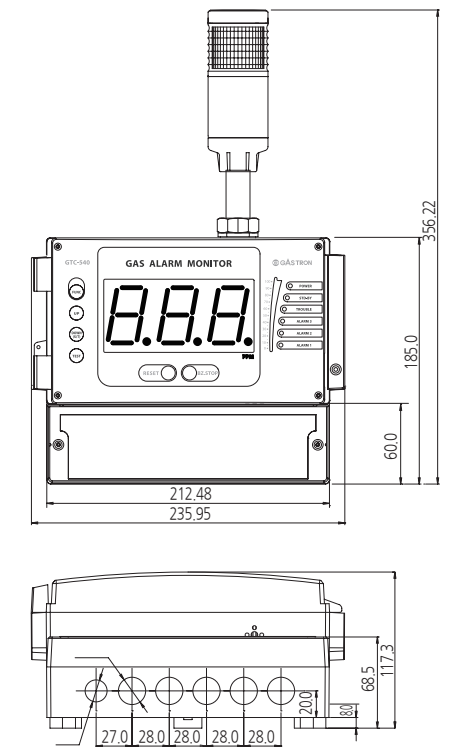


GTC-540A



GTC-550

### DIMENSION (Unit : mm)



### 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 (DC 12V)	
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)		Alarm time (instant & delay) 1~30min Measuring value offset (SAD) Relay output on/off	
Operating temperature	-20°C ~ +60°C			
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			



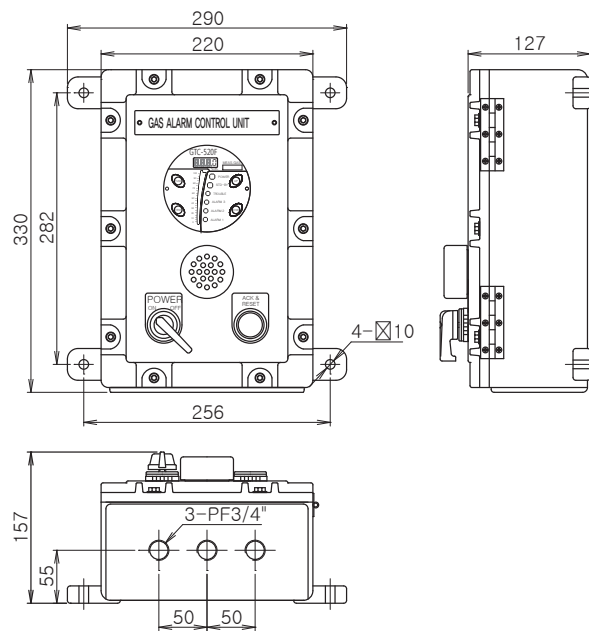
## GTC-520F Series Single Channel Explosion Proof Type Gas Detector Receiver

| 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) | Peak hold | 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°C ~ +50°C			
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			

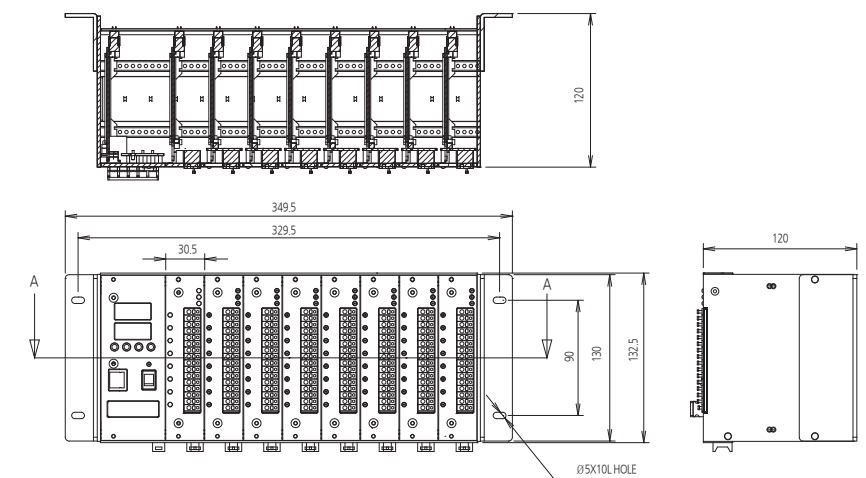
## GTC-700 Series Analogue Mux Controller (8 Slot)

| 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 (0.32 sec / 64 channels) | Isolated Analog Input Port |

### IMAGE



### DIMENSION (Unit : mm)



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

UNIT	ANALOG MUX CONTROLLER ( 8 SLOT )	
	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	
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	

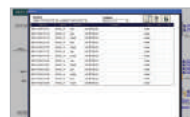
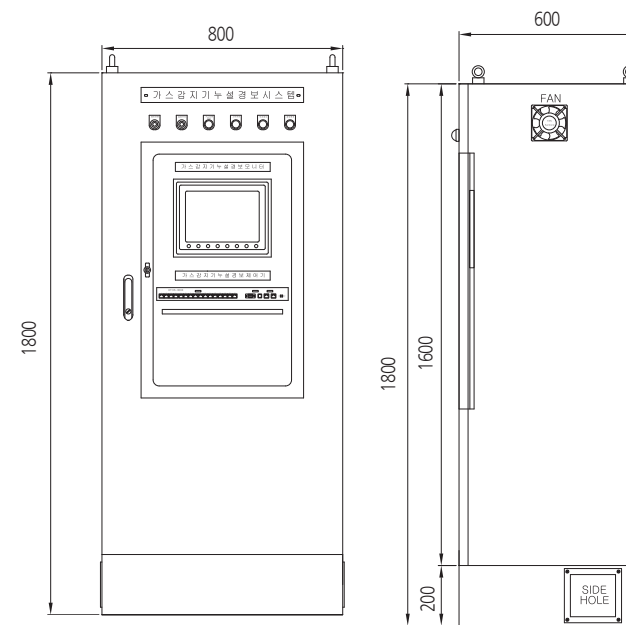
## GMS-2000 Touch Screen Monitoring System

| Integrated management of all gas detectors with one graphic | Easy configuration with low cost by serial data communication (RS-485 Modbus) | Easy output configuration 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 expansion by serial port | Ethernet applicable | Easy to analyze data by providing real-time history trend | Easily search for data and ranges |

### IMAGE



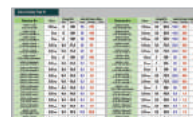
### DIMENSION (Unit : mm)



Alarm report



Bar graph display of gas density



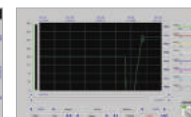
Display of gas density and alarm condition



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 (Touch Screen) & buzzer, External red lamp on
Hi alarm display	Yellow lamp on (Touch screen) & buzzer, External yellow lamp on
HiHi alarm display	Yellow lamp on (Touch screen) & 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°C ~ +40°C
Operating humidity	5 to 95% RH (Non-condensing)
Dimensions	800(W) x 1800(H) x 600(D)mm
CERTIFICATION	
KFI / CCCF	Refer to website







**DOD64 FTIR**  
Fourier Transform InfraRed Gas Detection Monitoring

**ChemLogic 96**  
ChemLogic 96 Point Continuous Gas Monitor

**ChemLogic 8**  
ChemLogic 8 Point Continuous Gas Monitor

**CLPX**  
ChemLogic Portable Gas Detector

**GASTRON**

# Colorimetric (ChemLogic) Gas Monitor

## DOD64 FTIR Fourier Transform InfraRed Gas Detection Monitoring

| Advanced Interferometer : Increased reliability / Lower Maintenance | 16 - 64 Points of Detection : Flexible & Expandable System | 20 gas selection per point : Cost effective monitoring per point | 50 Initial Gases to select from : Flexible to adapt to new requirements | MCT Stirling cooled detector : Detects gases at a much lower level (PPB) | Ceramic Globar IR Source : Increased reliability / Lower Maintenance | VCSEL reference laser : Increased reliability / Lower Maintenance | Sample Cell volume 400ml : Quick sample fill time & analysis (min 10 sec) | USB Port with Memory Stick : Easily Retrievable Data and Spectra | Real Time Trend Display : Quick Real Time Information and Spectra | Complete Front Access : Easy to Service | Touch Screen Control : Easy to Startup & Operate | Compact Size : Simple to Install/ saves you space | Advanced HMI & Flash control : More reliable and easy to learn |

### IMAGE



### ACCESSORIES



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

INTELLIGENT & SAMPLING TYPE VOC GAS DETECTOR	
Detection Principal	FTIR(MCT or DTGS Methods Available)
Gasses Available	See Next Page
Monitoring Points	16 up to 64 (In 16-point increments)
Sample Distance	400ft. (122m) - .25" OD, .187" ID Teflon FEP tubing
Exhaust Tubing	25ft. (7.62m) -.375" OD, .25" ID Poly-E (Included)
Display	19" Color touch screen
Local Alarm Indication	Visual on Display & Audible (Optional light tower available)
Relay Outputs	Programmable low and high-level faults
Operating Temperature	40°F – 104°F (4°C – 40°C)
Dimensions	L x W x H - 59" (+10" For Tubing) x 31" (+9" for Wiring) x 28.5"
Shipping Weight	450lbs. (204 kg)
Operating Voltage	100 – 110VAC (50/60Hz), 230VAC (50Hz)
Power Consumption	Less than 6 Amps
Enclosure	Powder Coated Steel
Spectral Range	8,300cm <sup>-1</sup> to 350cm <sup>-1</sup>
Spectral Resolution	4.0cm <sup>-1</sup>
Detector	MCT or DTGS
Line Flow	Continuous line purge
Line Sample Analysis	Sequential (As little as 10 secs per point)
Gas Cell Path Length	5 Meters Effective Path
Gas Cell Construction	303 Stainless Steel
Mirrors	ZnSe or KBR

Chemical Name	Formula	CAS Num.	DTGS LDL (ppm)	MCT LDL (ppm)** in Nitrogen
Silicon tetrafluoride	SiF4	7783-61-1	0.3	0.0006
Octafluorocyclopentene	C5F8	549-40-0	0.2	0.003
HMDS	(CH3)3SiNHSi(CH3)3	999-97-3	0.5	0.0036
Acetic acid	C2H4O2	64-19-7	1.3	0.0045
Trichlorosilane	HSiCl3	10025-78-2		0.0045
Boron trichloride	BCl3	10294-34-5	0.7	0.005
Diborane	B2H6	19287-45-7	0.7	0.005
Dichlorosilane	SiH2Cl2	4109-96-0	0.3	0.005
Difluoromethane	CH2F2	75-10-5	0.3	0.005
Germane	GeH4	7782-65-2	0.3	0.005
Nitrogen monoxide	NO	10102-43-9	4.5	0.005
Nitrogen trifluoride	NF3	7783-54-2	0.3	0.005
Tetraethoxysilane	C8H20O4Si	78-10-4	2	0.005
Methylpyrrolidinone, n-	C5H9NO	872-50-4	4.5	0.0065
Ammonia	NH3	7664-41-7	1	0.007
Arsine	AsH3	7784-42-1	0.7	0.007
Silane	SiH4	7803-62-5	0.3	0.007
Chloroform	CHCl3	67-66-3	0.3	0.0072
Hexafluoro-1,3-butadiene	C4F6	685-63-2	0.3	0.01
Hydrogen fluoride	HF	7664-39-3	1.5	0.012
Ozone	O3	10028-15-6	1.5	0.012
Carbonyl Sulphide	COS	463-58-1	0.3	0.015
Heptanone, 2-	C7H14O	110-43-0	1.3	0.015
Methanol	CH3OH	67-56-1	1	0.016
Pentanone, 2-	C5H10O	107-87-9	3	0.016
Hydrogen chloride	HCl	7647-01-0	3	0.02
Phosphine	PH3	7803-51-2	2.5	0.02
Propyleneglycol monomethylether acetate	C6H12O3	108-65-6	0.7	0.02
Xylenes, p-	C6H4(CH3)2	106-42-3	3	0.02
Carbon monoxide	CO	630-08-0	3.5	0.021
Dimethyl amine	C2H7N	124-40-3	4	0.024
Methane	CH4	74-82-8	3	0.028
Isopropyl alcohol	CH3CHOHCH3	67-63-0	3	0.03
Propylene	C3H6	115-07-1	3	0.048
Ethylene	CH2=CH2	74-85-1	0.5	0.05
Acetone	(CH3)2CO	67-64-1	2.7	0.06
Toluene	C7H8	108-88-3	1.3	0.06
Hydrogen bromide	HBr	10035-10-6	2	0.065
Fluoromethane	CH3F	593-53-3	1	0.075
Boron trifluoride	BF3	7637-07-02	1	0.08
Benzene	C6H6	71-43-2	1	0.09
Silicon tetrachloride	SiCl4	10026-04-7	0.6	0.38
Carbon tetrachloride	CCl4	56-23-5	0.1	0.001
Ethyl 3-ethoxypropionate	C7H14O3	763-69-9	0.7	0.007
Freon 23	CHF3	75-46-7	0.1	0.001
Trimethyl boron	B(CH3)3	593-90-8	2.5	0.025
Acetaldehyde	C2H4O	75-07-0	7	0.07
Acetic Anhydride	(CH3CO)2O	108-24-7	0.7	0.007
Acetonitrile	C2H3N	75-05-8	115	1.15
Acetyl Acetone	C5H8O2	123-54-6	2.7	0.027
Acetylene	C2H2	74-86-2	1.3	0.013
Acrolein	C3H4O	107-02-8	5.3	0.053
Acrylonitrile	CH2=CHCN C3H3N	107-13-1	5.3	0.053
Benzyl alcohol	C7H8O	100-51-6	4	0.04
Bis(tertiary-butyl-amino)silane	SiH2[NH(C4H9)]2	186598-40-3		0
Bromomethane	CH3Br	74-83-9	25	0.25
Butadiene, 1,3	C4H6	106-99-0	1.3	0.013
Butane	C4H10	106-97-8	1	0.01
Butene, 1-	C4H8	106-98-9	3	0.03
Butyl acetate	CH3COO(CH2)3CH3	123-86-4	1	0.01
Butyl alcohol, 1-	CH3(CH2)2CH2OH	71-36-3	3	0.03
Butyl cellosolve acetate	C8-H16-O3	112-07-2	0.8	0.008
Butyrolactone	C4H6O2	96-48-0	0.5	0.005
Carbon dioxide	CO2	124-38-9	1	0.01
Carbon disulfide	CS2	75-15-0	4.5	0.045
Carbonyl fluoride	COF2	353-50-4	2	0.02



Chemical Name	Formula	CAS Num.	DTGS LDL (ppm)	MCT LDL (ppm)** in Nitrogen	
Chlorobenzene	C6H5Cl	108-90-7	2	0.02	*
Chlorodifluoromethane	CHClF2	75-45-6	0.3	0.003	*
Chloromethane	CH3Cl	74-87-3	9	0.09	*
Chloroethylchloride, 3-	ClCH2C(CH3)2COCl	4300-97-4	1.3	0.013	*
Chlorotrifluoroethylene	C2ClF3	79-38-9	0.7	0.007	*
CVD-3000 (Silicon Carbide Precursor)	n/a		0.3	0.003	*
Cyanogen	C2N2	460-19-5	17	0.17	*
Cyclohexane	C6H12	110-82-7	0.3	0.003	*
Cyclohexanol	C6H12O	108-93-0	3	0.03	*
Cyclohexanone	C6H10O, (CH2)5CO	108-94-1	7	0.07	*
Cyclohexene	C6H10	110-83-8	2.7	0.027	*
Cyclopentanone	C5H8O	120-92-3	1.7	0.017	*
Desflurane	C3H2F6O	57041-67-5	0.7	0.007	*
Dichlorobenzene, 1,2-	C6H4Cl2	95-50-1	4	0.04	*
Dichloroethane	C2H4Cl2	156-60-2	1.3	0.013	*
Dichloroethylene, t-1,2-	C2H2Cl2	150-60-5	0.6	0.006	*
Dichloroethylene, trans, 1,2-	C2H2Cl2	156-60-5	0.6	0.006	*
Dichlorofluoromethane (FC-21)	CHCl2F	75-43-4	1	0.01	*
Dichloromethane	CH2Cl2	75-09-2	1	0.01	*
Dichloropropane, 1,2-	CH3CHClCH2Cl	78-87-5	4.5	0.045	*
Diethoxymethylloxiranylsilane	C7H16O3Si	798568-23-7	0.7	0.007	*
Diethyl ether	(C2H5)2O	60-29-7	0.7	0.007	*
Diethylamine	C4H11N	109-89-7	1.5	0.015	*
Diethyltelluride	(C2H5)2Te	627-54-3	1.3	0.013	*
Diglycolamine	C4H11NO2	929-06-6	3.5	0.035	*
Dimethyl acetamide	C4H9NO	127-19-5	2.7	0.027	*
Dimethyl ether	(CH3)2O	115-10-6	2	0.02	*
Dimethyl sulfoxide	C2H6OS	67-68-5	2.7	0.027	*
Dimethyldiethoxysilane	C6H16O2Si	78-62-6	0.5	0.005	*
Dimethyldimethoxysilane	C4H12O2Si	1112-39-6	0.5	0.005	*
Dimethylformamide	HCON(CH3)2	68-12-2	1.3	0.013	*
Dimethylphenylsilane	C6H5-SiH-(CH3)2	766-77-8	0.7	0.007	*
Dimethylvinyl Disilazane	C8H19N4Si	7691-02-3	0.5	0.005	*
Dimethylzinc	(CH3)2Zn	544-97-8	3	0.03	*
Dioxane	C4H8O2	123-91-1	0.7	0.007	*
Dipropylamine	C6H15N	142-87-7	2	0.02	*
Disilabutane, 1,4-	C2H10Si2	4364-07-2	0.2	0.002	*
Enflurane	C3H2ClF5O	13838-16-9	0.3	0.003	*
Epichlorohydrin	ClCH2C2H3O	106-89-8	2.7	0.027	*
Ethanol	C2H6O	64-17-5	2	0.02	*
Ethanolamine	NH2-C2H4OH	141-43-5	3	0.03	*
Ethoxyethanol, 2-	C4H10O2	110-80-5	1	0.01	*
Ethoxyethylacetate, 2-	C6H12O3	111-15-9	1	0.01	*
Ethyl acetate	CH3COOC2H5	141-78-6	0.3	0.003	*
Ethyl acrylate	C5H8O2	140-88-5	0.7	0.007	*
Ethyl amine	C2H7N	75-04-7	4.7	0.047	*
Ethyl benzene	C8H10	100-41-4	9	0.09	*
Ethyl lactate	C5H10O3	687-47-8	0.7	0.007	*
Ethyl pyruvate	C5H8O3	617-35-6	2.5	0.025	*
Ethylene dichloride	C2H4Cl2	107-06-2	1.3	0.013	*
Ethylene glycol	C2H6O2	107-21-1	1.2	0.012	*
Ethylene oxide	C2H4O	75-21-8	2	0.02	*
Ethylidene norbornene	C9H12	16219-75-3	6.5	0.065	*
Fluorinert FC3283	(C3F7)3N	338-83-0	0.2	0.002	*
Fluorinert FC-40	C21N2F48	51142-49-5	0.1	0.001	*
Fluorinert FC-77	(C8F18)n.(C8F16O)m	86508-42-1, 52623-00-4	0.5	0.005	*
Formaldehyde	HCHO	50-00-0	2	0.02	*
Formamide	HCONH2	75-12-7	17	0.17	*
Freon 11	CFC13	75-69-4	0.1	0.001	*
Freon 113/TF	CF3CCl3	76-13-1	0.4	0.004	*
Freon 114	C2Cl2F4	76-14-2	0.5	0.005	*
Freon 116	C2F6	76-16-4	0.2	0.002	*
Freon 12	CF2Cl2	75-71-8	0.4	0.004	*
Freon 13	CClF3	75-72-9	0.15	0.0015	*
Freon 134a	C2H2F4	811-97-2	0.2	0.002	*
Freon 13B1	CF3Br	75-63-8	0.2	0.002	*

Chemical Name	Formula	CAS Num.	DTGS LDL (ppm)	MCT LDL (ppm)** in Nitrogen	
Freon 14	CF4	75-73-0	75-73-0	0.001	*
Galden HT110	CF3-[(OCFCF3CF2)n-(OCF2)m]-OCF3	69991-67-9	69991-67-9	0.003	*
Galden HT135	CF3-[(OCFCF3CF2)n-(OCF2)m]-OCF3	69991-67-9	69991-67-9	0.002	*
Galden HT-200	CF3-[(OCFCF3CF2)n-(OCF2)m]-OCF3	69991-67-9	69991-67-9	0.001	*
Galden HT70	CF3-[(OCFCF3CF2)n-(OCF2)m]-OCF3	69991-67-9	69991-67-9	0.004	*
Glutaraldehyde	C5H8O2	111-30-8	111-30-8	0.035	*
Halothane	C2HBrClF3	151-67-7	151-67-7	0.004	*
HCFC-141b	CCl2FCH3	17-17-006	17-17-006	0.009	*
HCFC-225ca	C3HF5Cl2	422-56-0	422-56-0	0.013	*
HCFC-225cb	C3HF5Cl2	507-55-1	507-55-1	0.01	*
HCFO-1233xf	CClF2CClCH2	2730-62-3	2730-62-3	0.02	*
Heptafluorocyclopentene	C5HF7	1892-03-1	1892-03-1	0.003	*
Hexachlorobutadiene	C4Cl6	87-68-3	87-68-3	0.007	*
Hexachloroethane	C2Cl6	67-72-1	67-72-1	0.001	*
Hexafluoro-2,5-dihydrothiophene	C4F6S	380-40-5	380-40-5	0.003	*
Hexafluorobenzene	C6F6	392-56-3	392-56-3	0.003	*
Hexafluoropropylene	C3F6	116-15-4	116-15-4	0.005	*
Hexahydrophthalic anhydride	C8H10O13	85-42-7	85-42-7	0.0005	*
Hexamethyl diamine	C6H16N2	124-09-4	124-09-4	0.025	*
Hexamethyldisilane	C6H18Si2	1450-14-2	1450-14-2	0.005	*
Hexane, n-	C6H14	110-54-3	110-54-3	0.01	*
Hexanes	C6H14	73513-42-5	73513-42-5	0.01	*
HFC-1132a	C2H2F2	75-38-7	75-38-7	0.01	*
HFE71	C5F9OH3	163702-07-6	163702-07-6	0.007	*
HFE-7200	C4F9OC2H5	163702-05-4	163702-05-4	0.005	*
HFE-7500	C9H5F15O	297730-93-9	297730-93-9	0.004	*
Hydrogen cyanide	HCN	74-90-8	74-90-8	0.015	*
Iron pentacarbonyl	Fe(CO)5	13463-40-6	13463-40-6	0.001	*
Isobutane	C4H10	75-28-5	75-28-5	0.005	*
Isobutylene	C4H8	115-11-7	115-11-7	0.01	*
Isoflurane	C3H2ClF5O	26675-46-7	26675-46-7	0.004	*
Isopentane	C5H12	78-78-4	78-78-4	0.005	*
Isophorone	C9H14O	78-59-1	78-59-1	0.007	*
Isopropyl acetate	CH3COOCH(CH3)2	108-21-4	108-21-4	0.003	*
Isopropyl amine	C3H9N	75-31-0	75-31-0	0.025	*
Kerosene		8008-20-6	8008-20-6	0.006	*
Limonene, d-	C10H16	5989-54-8	5989-54-8	0.03	*
Methoxyethanol, 2-	C3H8O2	109-86-4	109-86-4	0.017	*
Methoxyethyl Acetate, 2-	C5H10O3	110-49-6	110-49-6	0.01	*
Methoxyethyl ether, 2-	C6H14O3	111-96-6	111-96-6	0.003	*
Methyl 3-methoxyacrylate	C5H8O3	5788-17-0	5788-17-0	0.006	*
Methylmethoxypropylcarbosilane	n/a		n/a	0.01	*
Methyl 3-methoxypropionate	C5H10O3	3852-09-3	3852-09-3	0.01	*
Methyl acrylate	C4H6O2	96-33-3	0.5	0.005	*
Methyl amine	CH3NH2	74-89-5	2.5	0.025	*
Methyl ethyl ketone	C4H8O	78-93-3	3	0.03	*
Methyl isobutyl ketone	CH3COCH2CH(CH3)2	108-10-1	3	0.03	*
Methyl silane	CH6Si	992-94-9	0.6	0.006	*
Methyldiethoxysilane	C5H14O2Si	2031-62-1	0.5	0.005	*
Methyldimethoxysilane	C3H9O2Si	16881-77-9	0.2	0.002	*
Methylethanol amine	C3H9NO	109-63-1	5	0.05	*
Methylmethacrylate	C5H8O2	80-62-6	n/a	#VALUE!	*
Methyl-t-butylether	C5H12O	1634-04-4	1	0.01	*
Methyltriethoxysilane	C7H18O3Si	2031-67-6	0.3	0.003	*
Methyltrimethoxysilane	C4H12O3Si	1185-55-3	0.3	0.003	*
Naphthalene	C10H8	91-20-3	1.5	0.015	*
Nitrogen dioxide	NO2	10102-44-0	0.6	0.006	*
Nitrous oxide	N2O	10024-97-2	0.3	0.003	*
Octafluorocyclobutane	C4F8	115-25-3	1.5	0.015	*
Octafluoropropane	C3F8	76-19-7	0.07	0.0007	*
Octamethylcyclotetrasiloxane	C8H24O4Si4	556-67-2	0.1	0.001	*
Octane	C8H18	111-65-9	0.6	0.006	*
Oxygen difluoride	OF2	7783-41-7	2.5	0.025	*
Pentane	C5H12	109-66-0	1	0.01	*
Pentanol	C5H12O	71-41-0	2.5	0.025	*
Pentene, 1-	C5H10	109-67-1	2.5	0.025	*

Chemical Name	Formula	CAS Num.	DTGS LDL (ppm)	MCT LDL (ppm)** in Nitrogen	
Perchloroethylene	C2Cl4	127-18-4	0.5	0.005	*
Perfluorohexane	C6F14	355-42-0	1	0.01	*
Perfluoropropylvinylether	C5F10O	1623-05-8	0.3	0.003	*
Petroleum ether	C7H7BrMg	8032-32-4	0.7	0.007	*
Phenol	C6H5OH	108-95-2	6	0.06	*
Phosgene	COCl2	75-44-5	0.2	0.002	*
Phosphorus oxychloride	POCl3	10025-87-3	0.2	0.002	*
Pinene, beta	C10H16	18172-67-3	2	0.02	*
Porogen A	-	-	1.5	0.015	*
Propane	C3H8	74-98-6	2	0.02	*
Propionaldehyde	C3H6O	123-38-6	0.3	0.003	*
Propylene glycol	C3H8O2	57-55-6	2	0.02	*
Propylene glycol monomethyl ether	C4H10O2	107-98-2	1	0.01	*
Pyridine	C5H5N	110-86-1	6.5	0.065	*
R-123	C2HF3Cl2	306-83-2	0.3	0.003	*
R-1234yf	CH2=CFCF3	754-12-1	2	0.02	*
R-124	C2HClF4	2837-89-0	0.3	0.003	*
R-125	CHF2CF3	354-33-6	0.3	0.003	*
R-244bb	C3H3ClF4	421-73-8	0.3	0.003	*
R-245fa	C3H3F5	460-73-1	0.2	0.002	*
R404a			0.3	0.003	*
R407a			0.3	0.003	*
R407c			0.4	0.004	*
R4310	C5H2F10	138495-42-8	0.1	0.001	*
R507a			0.3	0.003	*
Sevoflurane	C4H3F7O	28523-86-6	0.4	0.004	*
SSY-525 (SiNx etch gas by Zeon)		-	2	0.02	*
Styrene	C8H8	100-42-5	2	0.02	*
Sulfur dioxide	SO2	7746-09-5	4	0.04	*
Sulfur hexafluoride	SF6	2551-62-4	0.3/0.04	0.003	*
Sulfuryl fluoride	SO2F2	2699-79-8	1	0.01	*
Terpinene, alpha	C10H16	99-86-5	1.7	0.017	*
Tert-Butylamine	C4H11N	75-64-9	1	0.01	*
Tetrachloropropene, 1,1,2,3-; (TECP)	C3H2Cl4	10436-39-2	4	0.04	*
Tetraethyleneglycol diacrylate	C4H22O7	17831-71-9	1.4	0.014	*
Tetrafluoroethylene	C2F4	116-14-3	0.4	0.004	*
Tetrahydrofuran	C4H8O	109-99-9	2.5	0.025	*
Tetrahydrofuran alcohol	C5H10O2	97-99-4	3.5	0.035	*
dimethylamine	C8H24N4Ti	3275-24-9	2	0.02	*
tetrakis(ethylamino)silane		17865-94-0	0.5	0.005	*
Tetrakis(trifluorophosphorus)nickel	Ni(PF3)4	13859-65-9	0.05	0.0005	*
Tetramethoxysilane	(CH3O)4Si	681-84-5	0.5	0.005	*
Tetramethyl cyclotetrasiloxane	(HSiCH3O)4	2370-88-9	0.15	0.0015	*
Tetramethyl silane	(CH3)4Si	75-76-3	0.2	0.002	*
Tetramethyl-1,3-disilacyclobutane, 1,1,3,3-	C6H16Si2	1627-98-1	0.2	0.002	*
Tetramethylammonium hydroxide	(CH3)4NOH	75-59-2	0.7	0.007	*
Tetramethyldisilethylene	C6H18Si2	20152-11-8	0.15	0.0015	*
Tetramethyldisiloxane, 1,1,3,3-	C4H14OSi2	3277-26-7	0.3	0.003	*
Tetramethylene sulfone	C4H8O2S	126-33-0	2	0.02	*
Tetra vinyl tetramethyl cyclotetrasiloxane	C12H24O4Si4	27342-69-4	0.2	0.002	*
Trichloroethane, 1,1,1-	C2H3Cl3	71-55-6	0.7	0.007	*
Trichloroethane, 1,1,2-	C2H3Cl3	79-00-5	4	0.04	*
Trichloroethylene	C2HCl3	79-01-6	1.3	0.013	*
Triethoxysilane	C6H16O3Si	998-30-1	0.3	0.003	*
Triethyl borate	(C2H5O)3B	150-46-9	0.7	0.007	*
Triethyl phosphate	(CH3CH2)3PO4	78-40-0	0.3	0.003	*
Triethylamine	(C2H5)3N	121-44-8	1.7	0.017	*
Trifluoroethanethiol	C2H3F3S	1544-53-2	0.3	0.003	*
Trifluoropropyne (TFPY)	C3HF3	661-54-1	0.3	0.003	*
Tri-isopropylsilane	C9H22Si	6486-79-6	0.4	0.004	*
Trimthoxysilane	Trimthoxysilane	2487-90-3	0.2	0.002	*
Trimethyl amine	N(CH3)3	75-50-3	3.00	0.03	*
Trimethyl borate	(CH3O)3B	121-43-7	0.7	0.007	*
Trimethyl phosphate	(CH3)3PO4	512-56-1	0.5	0.005	*
Trimethyl phosphite	(CH3O)3P	121-45-9	0.2	0.002	*
Trimethyl silane	C3H10Si	993-07-7	0.5	0.005	*

Chemical Name	Formula	CAS Num.	DTGS LDL (ppm)	MCT LDL (ppm)** in Nitrogen	
Trimethyl arsine	As(CH3)H	593-88-4	6	0.06	*
Trimethylmethoxy silane	C4H12OSi	1825-61-2	0.7	0.007	*
Trimethylsilyl acetylene	C5H10Si	1066-54-2	0.5	0.005	*
Trimethylsilyl acetylene, bis	C2(Si(CH3)3)2	14630-40-1	0.3	0.003	*
Trimethylsilyl imidazole	C6H12N2Si	18156-74-6	4.5	0.045	*
Trimethylsilylmethane, bis	[(CH3)3Si]2CH2	2117-28-4	0.15	0.0015	*
Trimethylvinylsilane (TMVS)	(CH3)3SiCHCH2	754-05-2	1	0.01	*
Trivinyl-trimethylcyclotrisiloxane	C9H18O3Si3	3901-77-7	0.1	0.001	*
Vinyl acetate	C4H6O2	108-05-4	0.25	0.0025	*
Vinyl chloride	C2H3Cl	75-01-4	2.5	0.025	*
Vinylmethyl-diethoxysilane	C7H16O2Si	5507-44-8	0.4	0.004	*
Vinylmethyl-dimethoxysilane	C5H12O2Si	16753-62-1	0.25	0.0025	*
Vinylphenylmethylsilane	C9H12Si	17875-39-6	0.5	0.005	*
Xylene, m-	C8H10	108-38-3	3	0.03	*
Xylene, o-	C8H10	95-47-6	0.6	0.006	*
Xylenes	C6H4(CH3)2	1330-20-7	2	0.02	*

\* Estimated Values based on detector specifications and capabilities – true values can be determined by testing if needed.



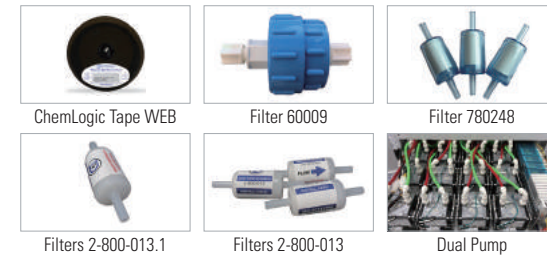
# ChemLogic 96 ChemLogic 96 Point Continuous Gas Monitor

Intelligent Optics : Reduced Maintenance and Risk of False Alarms | 16 to 96 Points of Detection : Flexible & Expandable System | Up to 3 Gas Families : Reduced Installation & Operating Costs | Optimized Flow System : Faster Response | 4 Month Cassette Life : Reduced Operating Cost | ChemLogic Technology : Field Proven Reliability | Remote Mountable I/O : Reduced Cost of Installation | USB Port with Memory Stick : Easily Retrievable Data | Real Time Trend Display : Quick Real Time Information | Complete Front Access : Easy to Service | Touch Screen Control : Easy to Startup & Operate | Compact Size : Simple to Install | Energy Efficient (Green) : Uses ~90% Less Energy Per Point than the Competition |

## IMAGE



## ACCESSORIES



## SPECIFICATION

※ Specifications are subject to be changed without prior notice.

CL96 TECHNICAL SPECIFICATIONS	
Detection Principal	ChemLogic Technology
Gases Available	See Below
Monitoring Points	16-32-48-64-80-96 points (with three detection families of gas)
Sample Distance	400ft (122m) 1/4" OD 3/16" ID Teflon FEP
Exhaust Tubing	25ft (7.62m) 3/8" OD 1/4" ID Poly-E (included)
Display	19" Color Touch Screen HMI
Local Alarm Indication	Audible and Visual
Relay Outputs	Programmable Low and High Level
Relay Output Options	24VDC Sinking (standard), 4-20mA & Form C Mechanical Relays
Communication Protocol Options	Ethernet IP (standard), DeviceNet, OPC, Profibus, Modbus, ControlNet, etc.
Operating Temperature	40F to 104F (5°C to 40°C)
Humidity	20-80% RH
Shipping Weight	450 lbs. (204 Kg)
Operating Voltage	100/110 VAC @ 50/60Hz, 230 VAC 50Hz
Power Consumption	Less than 3 Amps
Dimensions	H 59"(+10" for tubing) x W 31"(+9" for wiring) x D 28.5"

HYDRIDES	OXIDIZERS	OTHER
Arsine (AsH3)	Chlorine (Cl2)	Acetic Acid (Low Level)
Diborane (B2H6)	Chlorine (Cl2)	Ammonia (NH3)
Hydrogen Selenide (H2Se)	LL Chlorine (Cl2)	Bromine (Br)
Hydrogen Sulfide (H2S)	Nitrogen Dioxide (NO2)	Carbon Sul fide (COS)
Phosphine (PH3)	Fluorine (F2)	Hydrazine (N2H4)
Si lane (SiH4)		Hydrogen Cyanide (HCN)
Tertiary-Butyl-Arsine (TBA)		Methyl Isocyanate (MIC)
* Arsine (AsH3)-LL		Phosgene (COCL2)
* Germane (GeH4)		Velcorin
* Hydrogen Selenide (H2Se)		**C5F8
* Alternate Hydrde table selections		**Nitrogen Trifluoride (NF3)
<b>MINERAL ACIDS</b>		**Indicates pyrolyzer required
Boron Trifluoride (BF3)		
Hydrogen Bromide (HBr)		
Hydrogen Chloride (HCl)		
Hydrogen Fluoride (HF)		
Nitric Acid (HNO3)		
Sul furic Acid (H2SO4)		

FORMULA	GAS	LDL	Full Scale	Units	Alarm 1 Default	Alarm 2 Default	DIVISION
Ammonia	NH3	1.2	75	ppm	25	50	OTHER
Ammonia	NH3	1.2	150	ppm	25	50	OTHER
Arsenic Pentafluoride <sup>A</sup>	AsF5 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Arsenic Trichloride <sup>AA</sup>	AsHCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Arsenic Trifluoride <sup>A</sup>	AsF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Arsine	AsH3	2.2	500	ppb	50	100	HYDRIDES
Arsine	AsH3	0.3	50	ppb	5	10	HYDRIDES
Boron Tribromide <sup>AAA</sup>	BBr3 (HBr)	0.1	20	ppm	3	6	MINERAL ACIDS
Boron Trichloride <sup>AA</sup>	BCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Boron Trifluoride	BF3	89	3,200	ppb	1,000	2,000	MINERAL ACIDS
Boron Trifluoride	BF3	89	10,000	ppb	1,000	2,000	MINERAL ACIDS
Bromine	Br2	68.8	1,000	ppb	100	200	OXIDIZERS
Carbonyl Sulfide	COS	0.9	20	ppm	5	10	HYDRIDES
Carbonyl Fluoride <sup>A</sup>	COF2 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Chlorine	Cl2	44.6	5,000	ppb	500	1,000	OXIDIZERS
Chlorine	Cl2	50.1	3,200	ppb	500	1,000	OXIDIZERS
Chlorine	Cl2	6.9	2,000	ppb	500	1,000	OXIDIZERS
Chlorine Trifluoride <sup>A</sup>	ClF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Diborane	B2H6	6	1,000	ppb	100	200	HYDRIDES
Dichlorosilane <sup>AA</sup>	SiH3Cl2 (HCl)	0.2	15	ppm	5	10	OTHER
Fluorine	F2	49.8	3,200	ppb	1,000	2,000	OXIDIZERS
Fluorine	F2	60	10,000	ppb	1,000	2,000	OXIDIZERS
Fluorine (SG)	F2	44	1,000	ppb	100	200	OXIDIZERS
Fluorosilicic acid <sup>A</sup>	H2SiF6 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Germane	GeH4	62.1	2,000	ppb	200	400	HYDRIDES
Germanium Tetrafluoride <sup>A</sup>	GeF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Hexachlorosilane <sup>AA</sup>	SiCl2 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Hexafluorocyclobutene <sup>**</sup>	C4F6	1.5	40	ppm	5	10	OTHER
Hydrazine	N2H4	4.3	500	ppb	10	20	OTHER
Hydrogen Chloride	HCl	0.1	15	ppm	5	10	MINERAL ACIDS
Hydrogen Chloride	HCl	0.1	20	ppm	5	10	MINERAL ACIDS
Hydrogen Bromide	HBr	0.1	20	ppm	3	6	MINERAL ACIDS
Hydrogen Cyanide	HCN	298.2	2,500	ppb	500	1,000	OTHER
Hydrogen Fluoride	HF	0.2	10	ppm	3	6	MINERAL ACIDS
Hydrogen Fluoride	HF	0.2	20	ppm	3	6	MINERAL ACIDS
Hydrogen Selenide	H2Se	5.1	500	ppb	50	100	HYDRIDES
Hydrogen Sulfide	H2S	13.3	1,500	ppb	1,000	2,000	HYDRIDES
Hydrogen Sulfide	H2S	13.3	500	ppb	1,000	2,000	HYDRIDES
Hydrogen Sulfide	H2S	10	90	ppb	1,000	2,000	HYDRIDES
Hydrogen Sulfide	H2S	0.2	50	ppm	1	2	HYDRIDES
Hydrogen Sulfide	H2S	0.2	20	ppm	1	2	HYDRIDES
Methylene Isocyanate	MIC	3.7	100	ppm	3	5	OTHER
Methylene Isocyanate	MIC	1.5	10	ppm	3	5	OTHER
Nitric Acid	HNO3	187.5	5,000	ppb	2,000	4,000	MINERAL ACIDS
Nitrogen Dioxide	NO2	0.3	100	ppm	3	6	OXIDIZERS
Nitrogen Dioxide	NO2	1.3	30	ppm	3	6	OXIDIZERS
Phenyl Trichlorosilane <sup>AA</sup>	SiCl3Ph (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosgene	COCl2	8.8	5,000	ppb	100	200	OTHER
Phosgene	COCl2	8.8	3,250	ppb	100	200	OTHER
Phosgene	COCl2	3.9	300	ppb	100	200	OTHER
Phosphine	PH3	4.8	300	ppb	50	100	HYDRIDES
Phosphine	PH3	4.9	1,500	ppb	300	600	HYDRIDES
Phosphine	PH3	4.9	3,000	ppb	300	600	HYDRIDES
Phosphorus Oxichloride <sup>AA</sup>	POCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Pentachloride <sup>AA</sup>	PCl5 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Pentafluoride <sup>A</sup>	Pf5 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Phosphorus Tribromide <sup>AAA</sup>	PB3 (HBr)	0.1	20	ppm	3	6	MINERAL ACIDS
Phosphorus Trichloride <sup>AA</sup>	PCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Trifluoride <sup>A</sup>	PF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Silane	SiH4	0.2	50	ppm	5	10	HYDRIDES
Silane	SiH4	40	15,000	ppb	5,000	10,000	HYDRIDES
Silicon Tetrachloride <sup>AA</sup>	SiCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Stibine	SbH3	14.6	500	ppb	100	200	HYDRIDES
Sulfur Dioxide	SO2	19.3	2,500	ppb	250	500	OTHER
Sulfur Tetrafluoride <sup>A</sup>	SF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Sulfuric Acid	H2SO4	97.1	3,200	ppb	50	100	MINERAL ACIDS
Tetrakis(dimethylamido)titanium	TDMAT	0.1	10	ppm	1	2	OTHER
Tetrafluorosilane <sup>A</sup>	SiF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Tin Tetrachloride <sup>AA</sup>	SnCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Trichlorosilane <sup>AA</sup>	SiHCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Tungsten Hexafluoride <sup>A</sup>	WF6 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Velcorin	DMDC	8.9	200	ppb	40	80	OTHER

\* Additional ranges may be available and are subject to change. Please see specific product brochure or contact DOD Technologies.

\*\* Requires pyrolyzer option for detection

<sup>A</sup> Compounds which hydrolyze to HF

<sup>AA</sup> Compounds which hydrolyze to HCl

<sup>AAA</sup> Compounds which hydrolyze to HBr

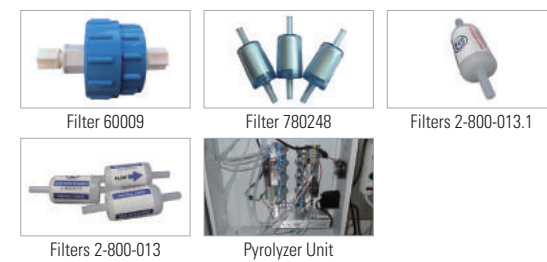
# ChemLogic 8 ChemLogic 8 Point Continuous Gas Monitor

| New intelligent Optics : Reduced Maintenance and risk of False Alarms | Optimized flow system : Quicker response | 2 & 4 Month Cassettes : Reduced operation cost | ChemLogic Technology : Field proven reliability | Remote mountable I/O : Reduced cost of installation | Flash Memory Storage : Easily retrievable data | Real time trend display : Quick real time information | Complete front access : Easy to service | Touch screen control : Easy to startup & operate | Compact size : Simple to install |

## IMAGE



## ACCESSORIES



## SPECIFICATION

※ Specifications are subject to be changed without prior notice.

CL8 TECHNICAL SPECIFICATIONS			
Detection Principal	ChemLogic Technology		
Gases Available	See Below		
Monitoring Points	8		
Enclosure	Powder Coated Steel		
Sample Distance	250ft (76m) 1/4" OD 3/16"ID Teflon FEP		
Exhaust Tubing	25ft (7.62m) 3/8"OD 1/4"ID Poly-E (included)		
Display	8" Color Touch Screen HMI		
Local Alarm Indication	Audible and Visual		
Relay Outputs	Programmable Low and High Level		
Operating Temperature	40F to 104F (5°C to 40°C)		
Shipping Weight	70 lbs.		
Operating Voltage	100/110 VAC @ 50/60Hz, 230 VAC 50Hz		
Power Consumption	Less than 1 Amp		
Dimensions	H 20.0" (508mm) x W 11.3" (287mm) x L 21.0" (533.5mm)		
HYDRIDES		OXIDIZERS	
Arsine (AsH3)	0-500ppb	Chlorine (Cl2)	0-5000ppb
Diborane (B2H6)	0-1000ppb	LL Chlorine (Cl2)	0-50ppb
Hydrogen Sul fide (H2S)	0-20ppm	Nitrogen Dioxide (NO2)	0-30ppm
Phosphine (PH3)	0-1500ppb	Fluorine (F2)	
Si lane (SiH4)	0-50ppm	OTHER	
Tertiary-Butyl -Arsine (TBA)	0-500ppb	Acetic Acid (Low Level)	0-50ppb
*Arsine (AsH3)-LL	0-50ppb	Ammonia (NH3)	0-75ppm
*Germane (GeH4)	0-2000ppb	Bromine (Br)	0-1000ppb
*Hydrogen Selenide (H2Se)	0-500ppb	Carbon Sulfide (COS)	0-20ppm
*Alternate Hydride table selections		Hydrazine (N2H4)	0-500ppb
		Hydrogen Cyanide (HCN)	0-2500ppb
		Methyl Isocyanate (MIC)	0-10ppm
MINERAL ACIDS			
Boron Trifluoride (BF3)	0-3200ppb	Phosgene (COCL2)	0-1000ppb
Hydrogen Bromide (HBr)	0-20ppm	Velcorin	0-200ppb
Hydrogen Chloride (HCl)	0-15ppm	**C5F8	0-15ppm
Hydrogen Fluoride (HF)	0-10ppm	**Ni trogen Trifluoride (NF3)	0-15ppm
Nitric Acid (HNO3)	0-6ppm	**Indicates pyrolyzer required	
Sul furic Acid (H2SO4)	0-750ppb		

FORMULA	GAS	LDL	Full Scale	Units	Alarm 1 Default	Alarm 2 Default	DIVISION
Acetic Acid	CH3CO2H	0.7	50	ppb	10000	20000	OTHER
Ammonia	NH3	1.2	75	ppm	25	50	OTHER
Arsenic Pentafluoride <sup>A</sup>	AsF5 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Arsenic Trichloride <sup>AA</sup>	AsCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Arsenic Trifluoride <sup>A</sup>	AsF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Arsine	AsH3	2.2	500	ppb	50	100	HYDRIDES
Arsine	AsH3	0.3	50	ppb	5	10	HYDRIDES
Boron Tribromide <sup>AAA</sup>	BBr3 (HBr)	0.1	20	ppm	3	6	MINERAL ACIDS
Boron Trichloride <sup>AA</sup>	BCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Boron Trifluoride	BF3	90.1	5000	ppb	1000	2000	MINERAL ACIDS
Bromine	Br2	72.2	3200	ppb	100	200	OXIDIZERS
Carbonyl Sulfide	COS	0.9	20	ppm	5	10	HYDRIDES
Carbonyl Fluoride <sup>A</sup>	COF2 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Chlorine	Cl2	44.6	5000	ppb	500	1000	OXIDIZERS
Chlorine	Cl2	50.1	32000	ppb	500	1000	OXIDIZERS
Chlorine	Cl2	6.9	2000	ppb	500	1000	OXIDIZERS
Chlorine	Cl2	1	30	ppb	500	1000	OXIDIZERS
Chlorine Trifluoride <sup>A</sup>	ClF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Hexafluorocyclobutene <sup>**</sup>	C4F6	1.5	40	ppm	5	10	OTHER
Diborane	B2H6	6	1000	ppb	100	200	HYDRIDES
Dichlorosilane <sup>AA</sup>	SiH3Cl2 (HCl)	0.2	15	ppm	5	10	HYDRIDES
Fluorine	F2	49.8	3200	ppb	1000	2000	OXIDIZERS
Fluorosilicic acid <sup>A</sup>	H2SiF6 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Germane	GeH4	62.1	2000	ppb	200	400	HYDRIDES
Germanium Tetrafluoride <sup>A</sup>	GeF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Hexachlorosilane <sup>AA</sup>	SiCl2 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Hydrazine	N2H4	4.3	500	ppb	10	20	OTHER
Hydrogen Chloride	HCl	0.2	15	ppm	5	10	MINERAL ACIDS
Hydrogen Chloride	HCl	20	4000	ppb	500	1000	MINERAL ACIDS
Hydrogen Bromide	HBr	0.1	20	ppm	3	6	MINERAL ACIDS
Hydrogen Cyanide	HCN	298.2	2500	ppb	500	1000	OTHER
Hydrogen Fluoride	HF	0.2	10	ppm	2	4	MINERAL ACIDS
Hydrogen Selenide	H2Se	5.1	500	ppb	50	100	HYDRIDES
Hydrogen Sulfide	H2S	13.3	1500	ppb	1000	2000	HYDRIDES
Hydrogen Sulfide	H2S	13.3	500	ppb	1000	2000	HYDRIDES
Hydrogen Sulfide	H2S	10	90	ppb	1000	2000	HYDRIDES
Hydrogen Sulfide	H2S	0.2	50	ppm	1	2	HYDRIDES
Hydrogen Sulfide	H2S	0.2	20	ppm	1	2	HYDRIDES
Hydrogen Sulfide	H2S	0.1	5	ppm	1	2	HYDRIDES
Methylene Isocyanate	MIC	3.7	100	ppm	2.5	5	OTHER
Methylene Isocyanate	MIC	1.5	10	ppm	2.5	5	OTHER
Nitric Acid	HNO3	187.5	5000	ppb	2000	4000	MINERAL ACIDS
Nitrogen Dioxide	NO2	0.3	100	ppm	3	6	OXIDIZERS
Nitrogen Dioxide	NO2	1.3	30	ppm	3	6	OXIDIZERS
Nitrogen Trifluoride	NF3	0.3	20	ppm	10	20	MINERAL ACIDS
Octafluorocyclopentene	C5F8	0.5	15	ppm	2	4	OTHER
Phenyl Trichlorosilane <sup>AA</sup>	SiCl3Ph (HCl)	0.2	15	ppm	5	10	OTHER
Phosgene	COCl2	8.8	5000	ppb	100	200	OTHER
Phosgene	COCl2	8.9	4000	ppb	100	200	OTHER
Phosgene	COCl2	8.8	3250	ppb	100	200	OTHER
Phosgene	COCl2	5.2	3000	ppb	100	200	OTHER
Phosgene	COCl2	6.6	1000	ppb	100	200	OTHER
Phosgene	COCl2	6.6	900	ppb	100	200	OTHER
Phosgene	COCl2	3.9	300	ppb	100	200	OTHER
Phosphine	PH3	4.8	300	ppb	50	100	HYDRIDES
Phosphine	PH3	4.9	1500	ppb	300	600	HYDRIDES
Phosphorus Oxichloride <sup>AA</sup>	POCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Pentachloride <sup>AA</sup>	PCl5 (HCl)	0.2	15	ppm	5	10	OTHER
Phosphorus Pentafluoride <sup>A</sup>	PF5 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Phosphorus Tribromide <sup>AAA</sup>	PBr3 (HBr)	0.1	20	ppm	3	6	MINERAL ACIDS
Phosphorus Trichloride <sup>AA</sup>	PCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Trifluoride <sup>A</sup>	PF3 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Silane	SiH4	0.2	50	ppm	5	10	HYDRIDES
Silicon Tetrachloride <sup>AA</sup>	SiCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Stibine	SbH3	14.6	500	ppb	100	200	HYDRIDES
Sulfur Dioxide	SO2	19.3	2500	ppb	250	500	OTHER
Sulfur Tetrafluoride <sup>A</sup>	SF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Sulfuric Acid	H2SO4	97.1	3200	ppb	50	100	MINERAL ACIDS
Tetrafluorosilane <sup>A</sup>	SiF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Tin Tetrachloride <sup>AA</sup>	SnCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Trichlorosilane <sup>AA</sup>	SiHCl3 (HCl)	0.2	15	ppm	5	10	HYDRIDES, MINERAL ACIDS
Tungsten Hexafluoride <sup>A</sup>	WF6 (HF)	0.2	10	ppm	2	4	OTHER
Trichlorosilane <sup>AA</sup>	SiHCl3 (HCl)	0.2	15	ppm	5	10	HYDRIDES, MINERAL ACIDS
Tungsten Hexafluoride <sup>A</sup>	WF6 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Velcorin	DMDC	8.9	200	ppb	40	80	OTHER

<sup>A</sup> Additional ranges may be available and are subject to change.  
<sup>AA</sup> Please see specific product brochure or contact DOD Technologies.  
<sup>AAA</sup> Requires pyrolyzer option for detection.  
<sup>A</sup> Compounds which hydrolyze to HF  
<sup>AA</sup> Compounds which hydrolyze to HCl  
<sup>AAA</sup> Compounds which hydrolyze to HBr



## CLPX ChemLogic Portable Gas Detector

Improved Optics Design : Provides low level gas detection in seconds | Immediate Alert Indicator Bar : Immediate Indication that gas is present | Automated Calibration : Eliminates the need for optical calibration | Built in Data Logging : Micro SD card can record up to 5 years of data | Real Time Clock w/Date Stamp : Accurate recording of data | SW Selectable Calibration Curves : All gas calibrations are user selectable(no gase yks needed) system is flexible to meet your gas detectione quirements | Extended Battery Life : Up to 12 hours of continuous monitoring | Built in STEL : Unit constantly calculates for a rolling 15 minute STEL | 2 Alarm Levels : User selectable alarm levels | Purged Cassette : Insures colorimetric media will not be contaminated by ambient gas |

### IMAGE



CLPX Tape

### ACCESSORIES

### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

CLPX TECHNICAL SPECIFICATIONS	
Detection Principal	ChemLogic Technology
Display	Back Lit LCD with graphic stain development
Operating Voltage	6VDC Battery or charge/line powered 100-240VAC 50/60hz
Operating Temperature	40F to 95F (4°C to 35°C)
Humidity	15 to 85 % (non condensing)
Dimensions	H-8.6"(219mm) W-4.1"(105mm) L- 11.3" (287mm)
Weight	5.5 lbs. (2.5 Kg)
Data Logging	2GB Micro SD Card

CLPX Technical Specifications			
DIISOCYANATE		MINERAL ACIDS	
TDI	0-200ppb	Boron Trifluoride (BF3)	0-3200ppb
MDI	0-200ppb	Hydrogen Bromide (HBr)	0-20ppm
HDI	0-200ppb	Hydrogen Chloride (HCl)	0-15ppm
IPDI	0-200ppb	Hydrogen Fluoride (HF)	0-10ppm
		Nitric Acid (HNO3)	0-6ppm
		Sulfuric Acid (H2SO4)	0-750ppb
HYDRIDES			
Arsine (AsH3)	0-50ppb / 0-500ppb	OXIDIZERS	
Diborane (B2H6)	0-1000ppb	Chlorine (Cl2)	0-5000ppb
Germane (GeH4)	0-2000ppb	LL Chlorine (Cl2)	0-30ppb
Hydrogen Selenide (H2Se)	0-500ppb	Fluorine (F2)	0-3200ppb
Hydrogen Sul fide (H2S)	0-90ppb / 0-20ppm	Nitrogen Dioxide (NO2)	0-25ppm
Phosphine (PH3)	0-1500ppb	OTHER	
Silane (SiH4)	0-50ppm	Ammonia (NH3)	0-75ppm
		Hydrazine (N2H4)	0-500ppb
		Phosgene (COCl2)	0-90ppb / 0-3000ppb
		Velcorin	0-200ppb

CLPX Gas Calibration Packages	
Semi / Solar Package	AsH3, PH3, B2H6, SiH4, GeH4, H2Se, H2S, HCl, HF, HBr, BF3, H2SO4, NH03, Cl2, LL Cl2, NH3
Chemical / Iso Package	COCL2, Cl2, NH3, TDI, MDI, IPDI, HDI, H2S, HF, HCl, HBr, H2SO4, HNO3, NO2
Iso Package	TDI, MDI, HDI, IPDI
Additional gas available upon request	N2H4, LL CL2, Velcorin & NO2

FORMULA	GAS	LDL	Full Scale	Units	Alarm 1 Default	Alarm 2 Default	DIVISION
Ammonia	NH3	1.9	75	ppm	25	50	OTHER
Arsenic Pentafluoride <sup>A</sup>	AsF5 (HF)	0.4	10	ppm	2	4	OTHER
Arsenic Trichloride <sup>AA</sup>	AsCl3 (HCL)	0.2	15	ppm	5	10	MINERAL ACIDS
Arsenic Trifluoride <sup>A</sup>	AsF3 (HF)	0.4	10	ppm	2	4	OTHER
Arsine	AsH3	0.9	500	ppb	50	100	HYDRIDES
Arsine	AsH3	0.9	50	ppb	5	10	HYDRIDES
Boron Tribromide <sup>AAA</sup>	BBr3 (HBr)	0.3	20	ppm	3	6	MINERAL ACIDS
Boron Trichloride <sup>AA</sup>	BCl3 (HCL)	0.2	15	ppm	5	10	MINERAL ACIDS
Boron Trifluoride	BF3	90.1	5000	ppb	1000	2000	MINERAL ACIDS
Carbonyl Sulfide	COS	1	20	ppm	5	10	HYDRIDES
Carbonyl Fluoride <sup>A</sup>	COF2 (HF)	0.4	10	ppm	2	4	OTHER
Chlorine	Cl2	39.5	5000	ppb	500	1000	OXIDIZERS
Chlorine	Cl2	1	20	ppb	500	1000	OXIDIZERS
Chlorine	Cl2	6.7	2000	ppb	500	1000	OXIDIZERS
Chlorine Trifluoride <sup>A</sup>	ClF3 (HF)	0.4	10	ppm	2	4	OTHER
Diborane	B2H6	14.9	1000	ppb	100	200	HYDRIDES
Dichlorosilane <sup>AA</sup>	SiH2Cl2 (HCL)	0.2	15	ppm	5	10	HYDRIDES, MINERAL ACIDS
Fluorine	F2	86.5	3200	ppb	1000	2000	OXIDIZERS
Fluorosilicic acid <sup>A</sup>	H2SiF6 (HF)	0.4	10	ppm	2	4	OTHER
Germane	GeH4	98.3	2000	ppb	200	400	HYDRIDES
Germanium Tetrafluoride <sup>A</sup>	GeF4 (HF)	0.4	10	ppm	2	4	OTHER
Hexachlorodisilane <sup>AA</sup>	SiCl2 (HCL)	0.2	15	ppm	5	10	MINERAL ACIDS
Hexafluorocyclobutene <sup>**</sup>	C4F6	1.5	40	ppm	5	10	OTHER
Hexamethylene Diisocyanate	HDI	2.6	200	ppb	5	10	OTHER
HMDI	HMDI	1.2	100	ppb	5	10	OTHER
Hydrazine	N2H4	8	500	ppb	10	20	OTHER
Hydrogen Chloride	HCL	0.2	15	ppm	2	4	MINERAL ACIDS
Hydrogen Bromide	HBR	0.3	20	ppm	3	6	MINERAL ACIDS
Hydrogen Cyanide	HCN	0.4	20	ppm	4.7	9.4	OTHER
Hydrogen Flouride	HF	0.4	10	ppm	2	4	MINERAL ACIDS
Hydrogen Selenide	H2Se	18.2	500	ppb	50	100	HYDRIDES
Hydrogen Sulfide	H2S	16.7	90	ppb	1000	2000	HYDRIDES
Hydrogen Sulfide	H2S	0.3	20	ppm	1	2	HYDRIDES
IPDI	IPDI	3	200	ppb	5	10	OTHER
MDI	MDI	1	200	ppb	5	10	OTHER
Nitric Acid	HNO3	12.5	6000	ppb	2000	4000	MINERAL ACIDS, OXIDIZERS
Nitrogen Dioxide	NO2	0.7	25	ppm	3	6	OXIDIZERS
Ozone	O3	30	300	ppb			OXIDIZERS
Phenyl Trichlorosilane <sup>AA</sup>	SiCl3Ph ( HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosgene	COCl2	4.9	90	ppb	100	200	OTHER
Phosgene	COCl2	5.3	3000	ppb	100	200	OTHER
Phosphine	PH3	5	1500	ppb	300	600	HYDRIDES
Phosphorus Oxychloride <sup>AA</sup>	POCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Pentachloride <sup>AA</sup>	PCl5 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Pentafluoride <sup>A</sup>	PF5 (HF)	0.4	10	ppm	2	4	OTHER
Phosphorus Tribromide <sup>AAA</sup>	PBr3 (HBr)	0.3	20	ppm	3	6	MINERAL ACIDS
Phosphorus Trichloride <sup>AA</sup>	PCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Phosphorus Trifluoride <sup>A</sup>	PF3 (HF)	0.4	10	ppm	2	4	OTHER
Silane	SiH4	0.2	50	ppm	5	10	HYDRIDES
Silicon Tetrachloride <sup>AA</sup>	SiCl4(HCL)	0.2	15	ppm	5	10	MINERAL ACIDS
Sulfuric Acid	H2SO4	23.3	750	ppb	50	100	MINERAL ACIDS
Sulfur Tetrafluoride	SF4 (HF)	0.4	10	ppm	2	4	OTHER
Tetrafluorosilane <sup>A</sup>	SiF4 (HF)	0.4	10	ppm	2	4	OTHER
Tin Tetrachloride <sup>AA</sup>	SnCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Toluene Diisocyanate	TDI	1.1	200	ppb	5	10	OTHER
Trichlorosilane <sup>AA</sup>	SiHCl3 (HCl)	0.2	15	ppm	5	10	HYDRIDES, MINERAL ACIDS
Sulfur Dioxide	SO2	24.9	2500	ppb	250	500	OTHER
Nitrogen Trifluoride <sup>**</sup>	NF3	1	50	ppm	5	10	MINERAL ACIDS
Tungsten Hexafluoride <sup>A</sup>	WF6 (HF)	0.4	10	ppm	2	4	OTHER
Silane	SiH4	0.2	50	ppm	5	10	HYDRIDES
Silane	SiH4	40	15,000	ppb	5,000	10,000	HYDRIDES
Silicon Tetrachloride <sup>AA</sup>	SiCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Stibine	SbH3	14.6	500	ppb	100	200	HYDRIDES
Sulfur Dioxide	SO2	19.3	2,500	ppb	250	500	OTHER
Sulfur Tetrafluoride <sup>A</sup>	SF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Sulfuric Acid	H2SO4	97.1	3,200	ppb	50	100	MINERAL ACIDS
Tetrakis(dimethylamido)titanium	TDMAT	0.1	10	ppm	1	2	OTHER
Tetrafluorosilane <sup>A</sup>	SiF4 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Tin Tetrachloride <sup>AA</sup>	SnCl4 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Trichlorosilane <sup>AA</sup>	SiHCl3 (HCl)	0.2	15	ppm	5	10	MINERAL ACIDS
Tungsten Hexafluoride <sup>A</sup>	WF6 (HF)	0.2	10	ppm	2	4	MINERAL ACIDS
Velcorin	DMDC	8.9	200	ppb	40	80	OTHER

\* Additional ranges may be available and are subject to change. Please see specific product brochure or contact DOD Technologies.

\*\* Requires pyrolyzer option for detection

<sup>A</sup> Compounds which hydrolyze to HF

<sup>AA</sup> Compounds which hydrolyze to HCl

<sup>AAA</sup> Compounds which hydrolyze to HBr



# Portable Gas Detector

**GASTRON**

**G-Finder Single**  
Single Gas Portable Detector

**GPD-100**  
Cartridge Sensor & Sampling Portable Detector

**TANGO TX1**  
Single Gas Portable Detector (CO, H2S, NO2, SO2)

**GasBadge Pro**  
Single Gas Portable Detector (O2, NH3, CL2, PH3, HCN, H2, CLO2)

**VENTIS MX4**  
4-Gas Portable Detector (LEL, Toxic)

**VENTIS PRO**  
5-Gas Portable Detector (LEL, Toxic, IR, VOC)

**MX6 iBrid**  
6-Gas Portable Detector (LEL, Toxic, IR, VOC)

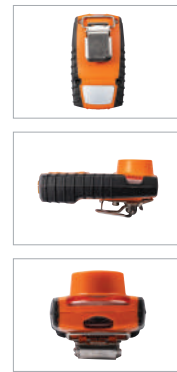
**RADIUS BZ1**  
7-Gas Area Monitor (LEL, Toxic, VOC)



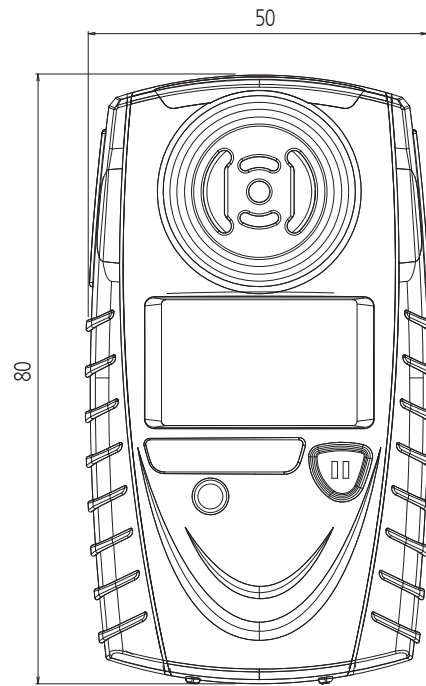
## G-Finder Single Single Gas Portable Detector

| 2 years warranty without replacement of battery and sensor | Easy to operate with one button | Real-time gas detection and display | Maintenance Free | 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	50(W) x 80(H) x 41(D)mm (alligator clip included)			
Weight	103 g (alligator clip included)			
Operating Temperature	-20°C ~ +50°C			
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% vol
	Carbon Monoxide	CO	0 ~ 300 ppm	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	H2S	10 ppm	15 ppm
CERTIFICATION				
KCs	Ex ia IIC T4 Ga	ATEX / IECEx	Ex ia IIC T4 Ga	
NEPSI	Ex ia IIC T4 Ga			

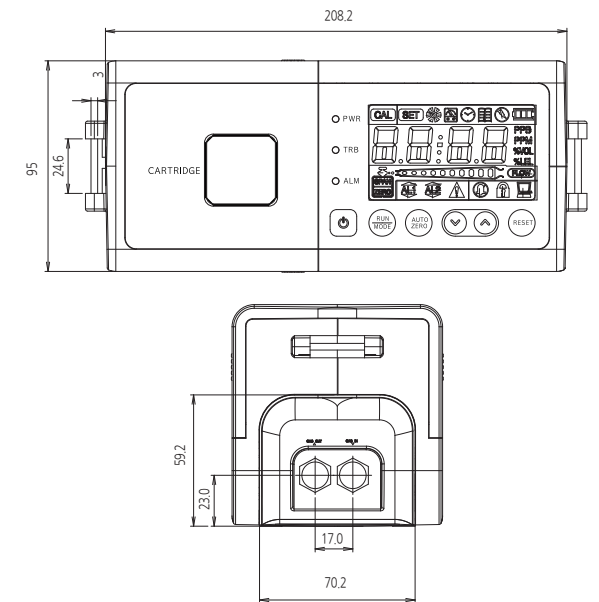
## GPD-100 Cartridge Sensor & Sampling Portable Detector

| 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
Measuring 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°C to 50°C		
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) x 95 (H) x 100 (D) mm		
Weight	1.2kg		
CERTIFICATION			
CE	Refer to website		

## TANGO TX1 Single Gas Portable Detector

| First-ever single gas monitor that uses two sensors to detect the same gas | Two years of continuous battery runtime | Easy Battery Replacement | Louder Alarm Sound than other brands (100dB @ 10cm) | Selectable Detection Gas(CO, CO / H2 low, H2S, NO2, SO2) |

### IMAGE



### ACCESSORIES



Tango TX1 With iNet DS

### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

TANGO TX1	
Display	Segment liquid crystal display (LCD)
Keypad	Two buttons
Case materials	Case top: Polycarbonate with a protective rubber overmold Case bottom: Conductive polycarbonate
Alarms	Three strobe-emitting visual alarm LEDs (two red, one blue); 100 decibel (dB) audible alarm at a distance of 10 cm (3.94"); Vibration alarm
Dimensions	99 x 51 x 35 mm (3.9" x 2.0" x 1.4")
Weight	126.0 g (4.4 oz.)
Temperature range	-20°C to +50°C typical
Humidity Range	15%-95% Non-condensing (continuous)
Sensors	CO, H2S, NO2, SO2 - Electrochemical sensor technology
Sensor Measuring Ranges	Carbon Monoxide (CO): 1 to 1,000 ppm in 1 ppm increments    Hydrogen Sulfide (H2S): 0.0 to 200.0 ppm in 0.1 ppm increments Carbon Monoxide (CO/H2 low) : 0 to 1,000 ppm in 1 ppm increments Nitrogen Dioxide (NO2): 0.0 to 150.0 ppm in 0.1 ppm increments    Sulfur Dioxide (SO2): 0.0 to 150.0 ppm in 0.1 ppm increments
Battery	3.6 V Primary lithium-thionyl chloride (Li-SOCl2), 1.5AH, 2/3AA, replaceable, nonrechargeable

### CERTIFICATIONS

EXPLOAMMABLE GAS DETECTOR		
ATEX	Ex ia I Ma	-20°C to +50°C
	Ex ia IIC T4 Ga	
IECEX	Ex ia I Ma	-20°C to +50°C
	Ex ia IIC T4 Ga	
UL (C-US)	Class I, Groups A, B, C, and D; Class II, Groups E, F, and G; T4; Exia	-20°C to +50°C
	Class I, Zone 0, AEx ia IIC T4	
CSA	Ex ia IIC; Class I, Groups A B C D; T4	-20°C to +50°C
China EX	Ex ia IIC T4 Ga	
INMETRO	Ex ia IIC T4 Ga	pending
MSHA	Permissible Gas Monitor	
KOSHA	Ex ia IIC T4 Ga	pending
China MA	Safety Certificate of Approval for Mining Products	

## GasBadge Pro Single Gas Portable Detector

| Full-featured, single gas detector | Lifetime warranty | Interchangeable sensors | iNet™ Ready and Docking Station™ compatible | Easy Battery Replacement | Selectable Detection Gas(CO, H2S, O2, NO2, SO2, NH3, CL2, ClO2, PH3, HCN, H2, CO/H2 low) |

### IMAGE



GasBadge Pro Application GasBadge Pro Application

### ACCESSORIES



Data Link

DS2 with GasBadge Pro

### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

GASBADGE PRO				
Case	Rugged, water-resistant polycarbonate shell with protective concussion-proof overmold. RFI resistant.			
Dimensions	3.7 x 2 x 1.1 inches (94 mm x 50.8 mm x 27.9 mm)			
Weight	3 oz. (85 grams)			
Measuring Ranges	Gas	Symbol	Range	Increments
	Carbon Monoxide	CO	0-1,500	1 ppm
	Hydrogen Sulfide	H2S	0-500 ppm	0.1 ppm
	Oxygen	O2	0-30% of volume	0.10%
	Nitrogen Dioxide	NO2	0-150 ppm	0.1 ppm
	Sulfur Dioxide	SO2	0-150 ppm	0.1 ppm
	Ammonia	NH3	0-500 ppm	1 ppm
	Chlorine	Cl2	0-100 ppm	0.1 ppm
	Chlorine Dioxide	ClO2	0-1 ppm	0.01 ppm
	Phosphine	PH3	0-10 ppm	0.01 ppm
	Hydrogen Cyanide	HCN	0-30 ppm	0.1 ppm
	Hydrogen	H2	0-2,000 ppm	1 ppm
	CO/H2 Null	CO/H2 low	0-1,000 ppm	1 ppm
Display	Custom LCD with graphical icons for easy use	Segmented display for direct gas readings	Backlight for low light conditions	
Alarms	User selectable low and high alarms	Ultra-bright LEDs, loud audible alarm (95 dB) and vibrating alarm	Peak reading indication	
Battery/Runtime	User replaceable 3V, CR2 Lithium battery	2,600 hour runtime (typical)		
Event-Logger	Continually on. Logs last 15 alarm events, stamping how long ago the event occurred, the duration of the event, and the peak reading seen during the event.			
Datalogger	Event-logger can be viewed on PC or printed directly from the instrument to an infrared printer.			
Temperature Range	One year at one-minute intervals			
Humidity Range	-20°C to 50°C typical			
Approvals:	0-99% RH (non-condensing), typical			
	UL/cUL: Class I, Groups A,B,C,D T4; Class II, Groups E,F,G; Class I, Zone 0, AEx ia IIC T4    CSA: Class I, Groups A B C D T4; Ex ia IIC T4 ATEX: Ex ia I/Ex ia IIC T4; Equipment Group and Category: I M1/II 1G    IECEx: Ex ia I/IIC T4    ANZEx: Ex ia I/IIC T4 INMETRO: BR - Ex ia IIC T4    China EX: Ex ia I/IIC T4    KOSHA: Ex ia I/IIC T4			



## VENTIS MX4 4-Gas Portable Detector

| Monitors 1-4 gases | Sampling Pump | Configures with or without a pump | Available with a black or safety orange overmold | iNet™ Ready and DS2 compatible | Selectable Detection Gas(LEL, CH4, O2, CO, CO/H2 low, H2S, NO2, SO2) |

### IMAGE



### ACCESSORIES



### SPECIFICATION

VENTIS MX4	
Case materials	Polycarbonate w/ protective rubber overmold
Dimensions	103 mm x 58 mm x 30 mm (4.1" x 2.3" x 1.2") - Ventis lithium-ion battery version 172 mm x 67 mm x 66 mm (6.8" x 2.6" x 2.6") - Ventis with pump lithium-ion battery version
Weight	182 g (6.4 oz) - Ventis, lithium-ion battery version    380 g (13.4 oz) - Ventis with Pump, lithium-ion battery version
Operating Temperature range	-20°C ~ 50°C Typical
Operating Humidity Range	15%-95% Non-condensing (continuous)
Display	Backlit Liquid Crystal Display (LCD)
Power Source/Run Time	Rechargeable lithium-ion battery pack (12 hours typical @ 20°C) - Ventis Rechargeable extended-range lithium-ion battery pack (20 hours typical @ 20°C) - Ventis (12 hours typical @ 20°C) - Ventis with pump Replaceable AAA alkaline battery pack (8 hours typical @ 20°C) - Ventis (4 hours typical @ 20°C) - Ventis with pump
Alarms	Ultra-bright LEDs, loud audible alarm (95 dB at 30 cm), and vibrating alarm
Sensors	Combustible gases/methane - Catalytic Diffusion    O2, CO, CO/H2 low, H2S, SO2 - Electrochemical
Sensor Measuring Ranges	Combustible Gases : 0-100% LEL in 1% increments    Methane (CH4) : 0-5% of vol. in 0.01% increments Oxygen (O2) : 0-30% of vol. in 0.1% increments    Carbon monoxide (CO) : 0-1,000 ppm in 1 ppm increments Hydrogen sulfide (H2S) : 0-500 ppm in 0.1 ppm increments    Nitrogen dioxide (NO2) : 0-150 ppm in 0.1 ppm increments Sulfur dioxide (SO2) : 0-150 ppm in 0.1 ppm increments Carbon monoxide (CO/H2 low) : 0-1,000 ppm in 1 ppm increments

\* Specifications are subject to be changed without prior notice.

CERTIFICATION	
UL	Class I, Division 1, Groups A B C D, T4; Zone 0, AEx ia IIC T4    Class II, Groups F G (Carbonaceous & Grain dust); IP66; IP67
ATEX	Ex ia IIC T4 Ga and Ex ia I Ma;    Equipment Group and Category II 1G and I M1; IP66; IP67
IECEX	Ex ia IIC T4 Ga; IP66; IP67
CSA	Class I, Division 1, Groups A B C D, T4; Ex d ia IIC T4    C22.2 No. 152 for %LEL reading only
ANZEx	Ex ia s Zone 0 I/IIC T4; IP66; IP67
INMETRO	Ex d ia IIC T4 Gb; IP66; IP67
KOSHA	Ex d ia IIC T4
MSHA	30 CFR Part 22; Permissible for underground mines; Li-ion versions only
PA-DEP	Permissible for PA Bituminous Underground Mines
China Ex	Ex ia d IIC T4 Gb
China CMC	Metrology approval
China MA	Approved for underground mines; diffusion (without pump)    standard Alkaline version only
GOST- K	PBExdial X / 1ExdialICT4 X
GOST-R	PBExdial X / 1ExdialICT4 X

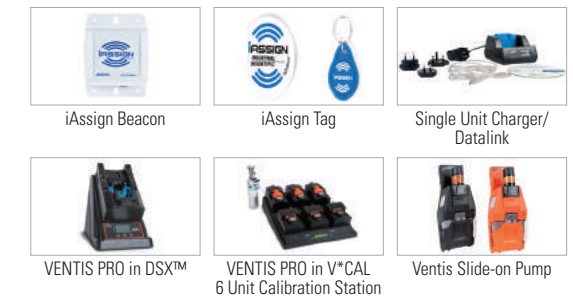
## VENTIS PRO 5-Gas Portable Detector

| Monitors 1-4 gases | Sampling pump | Choice of black or orange | Man alarm and panic button | Track users and sites with iAssign™ | Lens Wireless(Real-time alarm and measurement check) function | i-Net now available | Communication between Radius BZ1 and monitor using LENS™ Wireless |

### IMAGE



### ACCESSORIES



### SPECIFICATION

VENTIS PRO	
Instrument Warranty	Pump and batteries are warranted for two years.
Case Material	Polycarbonate with protective rubber overmold
Dimensions	104 mm x 58 mm x 36 mm (4.1" x 2.3" x 1.4") - without pump    172 mm x 67 mm x 65 mm (2.8" x 2.6" x 2.6") - with pump
Weight	200g (7.05oz), typical without pump    390g (13.76oz), typical with pump
Operating Temperature Range	-40°C to 50°C Typical
Operating Humidity Range	15-95% Non-condensing (continuous)
Display	Backlit liquid crystal display (LCD)
Power Source/Run Time	Rechargeable lithium-ion battery pack with LEL (12 hours typical @20°C) - without pump Rechargeable extended-range lithium-ion battery pack with LEL (24 hours typical @20°C) - without pump (18 hours typical @20°C) - with pump    Rechargeable lithium-ion battery pack with IR (36 hours typical @20°C) - without pump    Rechargeable extended-range lithium-ion battery pack with IR (72 hours typical @20°C) - without pump    (32 hours typical @20°C) - with pump
Alarms	Four visual alarm LEDs (two red, two blue); 95 decibel(d B) audible alarm at a distance of 10cm Vibration alarm
Sensors	Combustible Gases / Methane-Catalytic Bead    O2, CO, CO/H2 low, H2S, HCN, NH3, NO2, SO2-Electrochemical    CO2, HC, CO2/CH4-Infrared Combustible G ases: 0-100% LEL in 1% increments.    Methane(CH4): 0-5% of vol in 0.01% increments. Ammonia(NH3): 0-500ppm in 1ppm increments.    Carbon Monoxide(CO): 0-2,000ppm in 1ppm increments. Carbon Monoxide(CO/H2 low): 0-1,000ppm in 1ppm increments.
Sensor Measuring Ranges	Carbon Monoxide/Hydrogen Sulfide CO: 0-1,500ppm in 1ppm increments.    H2S : 0-500ppm in 0.1ppm increments. Hydrogen Sulfide(H2S): 0-500ppm in 0.1ppm increments.    Hydrogen Cyanide(HCN): 0-30ppm in 0.1ppm increments. Nitrogen Dioxide(NO2): 0-150ppm in 0.1ppm increments.    Sulfur Dioxide(SO2): 0-150ppm in 0.1ppm increments. Oxygen(O2): 0-30% of vol in 0.01% increments.    Carbon Dioxide/Hydrocarbons: CO2 : 0-5% in 0.01% increments. HC : 0-100% LEL in 1% increments.    Carbon Dioxide/Methane CO2 : 0-5% vol in 0.01% increments. CH4 : 0-5% vol in 0.01% increments.    CH4 : 5-100% vol in 0.01% increments.
Wireless	Optimal LENS™ Wireless, proprietary mesh network    Frequency : ISM license-free band (2.405 - 2.480 GHz) Max Peers : 25 devices per network group    Range : 100m (300ft) line of sight, face - to - face Encryption : AES-128    Approvals : FCC Part 15, IC, CE/RED, KC, others

INGRESS PROTECTION IP69

CERTIFICATION	
UL	CI I, Div 1, Gr A-D, T4; CI II, Div 1, Gr E-G, T4 CI I, Zone 0, AEx ia IIC, T4; CI I, Zone 1, AEx d ia II C, T4, IR sensor
ATEX	Equipment Group and Category II 1G, Ex ia IIC, Ga, T4 Equipment Group and Category II 2G, Ex d ia IIC, Gb, T4, IR sensor
IECEX	CI I, Zone 0, Ex ia IIC, Ga, T4; CI I, Zone 1, Ex d ia IIC, Gb, T4, IR sensor
CSA	CI I, Div 1, Gr A-D, T4; CI I, Zone 1, Ex d ia IIC, T4 I C22.2    No. 152 for % LEL reading only
ANZEx	Ex ia I Ma/Ex ia IIC T4 Ga, -40°C ≤ Ta ≤ 50°C    Ex d ia I Mb/Ex d ia IIC T4 Gb IR sensor, -20°C ≤ Ta ≤ 50°C IR sensor
InMetro	Ex ia IIC T4 Ga, -40°C ≤ Ta ≤ 50°C    Ex d ia IIC T4 Gb IR sensor, -20°C ≤ Ta ≤ 50°C IR sensor
MSHA	30 CFR Part 22; Permissible for underground mines
PA-DEP	BFE46-12 Permissible for PA Bituminous underground mines
China CPC	CPA 2017-C103
China Ex	30 CFR Part 22; Permissible for underground mines    BFE46-12 Permissible for PA Bituminous underground mines    CPA 2017-C103
KOSHA	Ex d ia IIC T4

## MX6 iBrid 6-Gas Portable Detector

| Monitors 1-6 gases | 24"Plug-and-Play"fie Id-replaceable sensors including PID and Infrared options | Full-color LCD display | Sampling Pump | Compatible with iNet™ and docking station | Up to 6 gases monitored simultaneously |

### IMAGE



### ACCESSORIES



### SPECIFICATION

MX6 iBRID	
Case Material:	Lexan/ABS/Stainless Steel w/protective rubber overmold
Dimensions:	135 mm x 77 mm x 43 mm (5.3" x 3.05" x 1.7") - without pump    167 mm x 77 mm x 56 mm (6.6" x 3.1" x 2.2") - with pump
Weight:	409 g (14.4 oz) typical - without pump; 511 g (18.0 oz) typical - with pump
Display/Readout:	Color Graphic Liquid Crystal Display
Power Source/Run Times:	Rechargeable Lithium-ion (Li-ion) Battery Pack (24 hours) - without pump    (36 hours) - without pump Replaceable AA Alkaline Battery Pack (10.5 hours) - without pump
Operating Temperature Range:	-20°C to 50°C typical
Operating Humidity Range:	15% to 95% non-condensing (continuous)

※ Specifications are subject to be changed without prior notice.

MEASURING RANGES					
Sensor	Range	Resolution	Sensor	Range	Resolution
Catalytic Bead			Hydrogen Sulfide	0-500 ppm	0.1
Combustible Gas	0-100% LEL	1%	Nitric Oxide	0-1,000 ppm	1
Methane	0-5% vol	0.01%	Nitrogen Dioxide	0-150 ppm	0.1
Electrochemical			Oxygen	0-30% vol	0.10%
Ammonia	0-500 ppm	1	Phosphine	0-5 ppm	0.01
Carbon Monoxide	0-1,500 ppm	1	Phosphine (High Range)	0-1,000 ppm	1
Carbon Monoxide (High Range)	0-9,999 ppm	1	Sulfur Dioxide	0-150 ppm	0.1
Carbon Monoxide/Hydrogen low	0-1,000 ppm	1	Infrared		
Chlorine	0-50 ppm	0.1	Hydrocarbons	0-100% LEL	1%
Chlorine Dioxide	0-1 ppm	0.01	Methane (% vol)	0-100% vol	1%
Carbon Monoxide/ Hydrogen Sulfide (COSH)	CO: 0-1,500 ppm H2S: 0-500 ppm	1 0.1	Methane (% LEL)	0-100% LEL	1%
Hydrogen	0-2,000 ppm	1	Carbon Dioxide	0-5% vol	0.01%
Hydrogen Chloride	0-30 ppm	0.1	Photoionization		
Hydrogen Cyanide	0-30 ppm	0.1	VOC	0-2,000 ppm	0.1

CERTIFICATIONS:	
UL	Class I, Groups A,B,C,D T4; Class II, Groups F,G; AEx ia d IIC T4
CSA	Class I, Groups A,B,C,D T4; Ex d ia IIC T4
MSHA	CFR30, Part 22, Intrinsically safe for methane/air mixtures
ATEX	*Ex ia IIC T4 Ga / Ex ia I Ma; IP65 (IP64 pump version); Equipment Group and Category: II 1G / I M1 (I M2 w/IR sensor)
IECEx	Ex ia IIC T4 Ga / Ex ia I (Ex ia d I w/IR sensor)
ANZEx	Ex ia s Zone 0 I, IP64 Asp., IP65 Dif. Ex ia s Zone 0 IIC T4
INMETRO	BR - Ex ia d IIC T4 Gb
GOST-R	PBExiadl X / 1ExiadlCT4 X
KOSHA	Ex d ia IIC T4
China Ex	Ex ia d I/IIC T4
China CPC	Metrology Approval

## RADIUS BZ1 7-Gas Area Monitor

| Monitors 1-7 | Sampling pump | Longest monitoring with up to 7 days (168 hours) of runtime | Communication between Ventis Pro and monitor using LENS™ Wireless | 108dB powerful sound at 1m distance | DualSense® Configurable | Peer to Peer for real-time alarm and measurement | Long distance communication up to 300M |

### IMAGE



### ACCESSORIES



### SPECIFICATION

RADIUSBZ1	
Case material	Impact-resistant polycarbonate alloys
Dimensions	29 x 29 x 55 cm (11.5" x 11.5" x 21.5")
Weight	7.5 kg (16.5 lb)
Operating Temperature range	-20°C ~ 55°C Typical
Operating Humidity Range	19-95% Non-condensing (continuous)
Display	11.2cm (4.4") monochrome backlit graphical liquid crystal display (LCD)
Power Source / Run Time	Rechargeable nickel-metal hydride (NiMH) battery pack    7 days (168 hours) typical@ 20 °C, without pump, with wireless 3.5 days (84 hours) typical@ 20 °C, with pump, with wireless    30days (720 hours) typical@ 20 °C, electrochemical sensors only, without pump, with wireless    ≤8 hour recharge time
Alarms	108 decibel (dB) at 1m (3.3ft) redundant audible alarms    Redundant visual alarm LEDs (red and blue)
Sensors	Up to 6 sensors (catalytic bead, photoionization detector, and electrochemical)    Up to 7 simultaneous readings
Sensor Measuring Ranges	Combustible Gases : 0-100% LEL in 1% increments    Ammonia (NH3) : 0-500 ppm in 1ppm increments Carbon Monoxide (CO): 0-1,500 ppm in 1ppm increments    Carbon Monoxide (CO High Range) : 0-9,999 ppm in 1ppm increments Carbon Monoxide (CO/H2 Low): 0-1,000 ppm in 1ppm increments Carbon Monoxide/Hydrogen Sulfide : CO : 0-1,500 ppm in 1ppm increments    H2S : 0-500 ppm in 0.1ppm increments Chlorine (CL2): 0-50 ppm in 0.1ppm increments    Hydrogen (H2) : 0-2,000 ppm in 1ppm increments Hydrogen Sulfide (H2S) : 0-500 ppm in 0.1ppm increments    Hydrogen Cyanide (HCN) : 0-30 ppm in 0.1ppm increments Nitrogen Dioxide (NO2) : 0-150 ppm in 0.1ppm increments    Oxygen (O2) : 0-30% of vol. in 0.1% increments Sulfur Dioxide (SO2) : 0-150 ppm in 0.1ppm increments    Volatile Organic Compounds (10.6 eV) : 0-2,000 ppm in 0.1ppm increments
Pump	Optional integral pump, up to 30.48 m (100ft) sample draw
Wireless	Optional LENS™ Wireless, proprietary mesh network    Frequency : ISM license-free band (2.405 - 2.480 GHz) Max Peers : 25 devices per network group 10 independent, configurable network groups Range : 300 m (-1,000 ft) line of sight    Encryption : AES-128 Approvals : FCC Part 15, IC, CE/RED, KC, others

※ Specifications are subject to be changed without prior notice.

CERTIFICATION	
ATEX	Ex da ia IIC T4 Ga, Equipment Group and Category II 1G
China CPC	China CPC
China EX	Ex d ia IIC T1 Ga; Ex d ia IIC T4 Gb IR sensor
CSA	CI I, Div 1, G A-D, T4    C22.2 No. 152 applies only to % LEL thermo-catalytic reading
IECEx	Ex da ia IIC T4 Ga
INMETRO	Ex da ia IIC T4 Ga; Ex db ia IIC T4 Gb IR sensor
UL	CI I, Div 1, Gr A-D, T4; CI 1, Zone 0 AEx da ia IIC T4 Ga1
KOSHA	Ex d ia IIC T4



### iNet® Now Constant monitoring configuration for sealed operation

- Real-time warning about panic and manhole in gas leak area |
- Track instrument status via real-time text messages, email alerts, and real-time maps from any device connected to the web, even outside the office |
- When the detector is connected to iNet, it can automatically grasp the status and position of operator |
- Connectable up to 9M Bluetooth distance |
- Update operator's status and location every 15 seconds |

### FEATURE

- Real-time warning about panic and manhole in gas leak area
- Track instrument status via real-time text messages, email alerts, and real-time maps from any device connected to the web, even outside the office
- When the detector is connected to iNet, it can automatically grasp the status and position of operator
- Connectable up to 9M Bluetooth distance
- Update operator's status and location every 15 seconds



### iNet® Now Control

► If iNet is disconnected, the detector can be audible and visual alarm

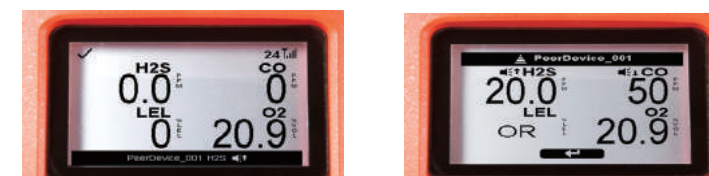
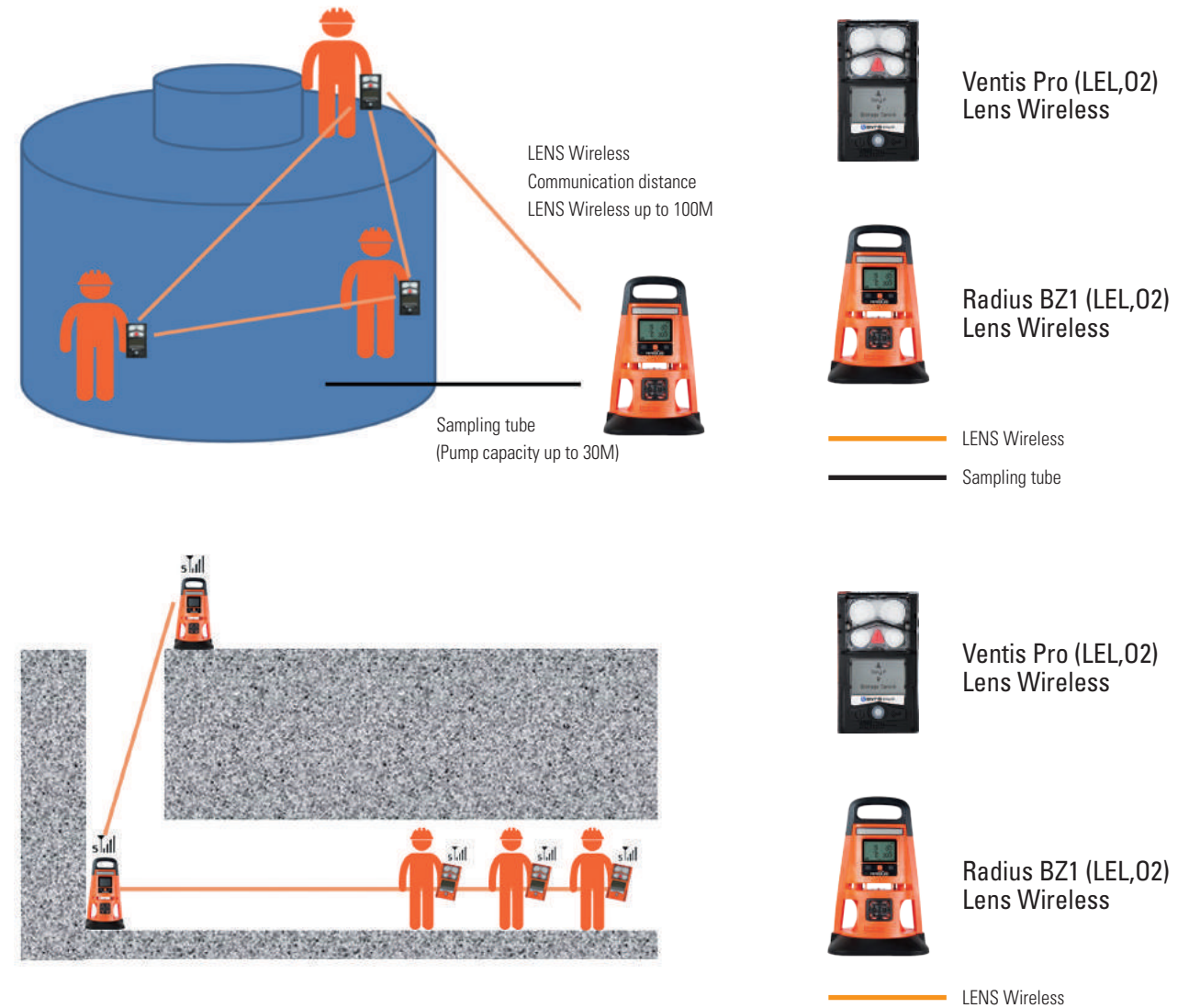
✓	5T	📶	🔋	✓	5T	📶	🔋
O2 %vol	LEL %LEL	H2S ppm		O2 %vol	LEL %LEL	H2S ppm	
20.9	0	0.0		20.9	0	0.0	
CO ppm	SO2 ppm			CO ppm	SO2 ppm		
0	0.0			0	0.0		

### iNet® Now Sync Devices

- Smart device is compatible with iNet Now Sync app
- iOS 10.0+ or Android 5.1+
- Bluetooth Low Energy (BLE) v4.1 or higher
- Running GPS-based applications

### CONSTANT MONITORING CONFIGURATION FOR SEALED OPERATION

- With LENS Wireless, you can be aware of the alarm and respond appropriately in a place that is close to the place of alarm.
- Operate with the detector itself without setup or IT support
- No other equipment required
- Provide alarms and data via peer reading
- Up to 25 devices can be connected in one group
- Alarms from one device can be checked on all connected devices



With Lens Wireless, you can gain visibility into the risks that occur up to 100 meters away so you can take the appropriate safety precautions when the gas reading in your area reaches a critical level

# Flame Detector & Ultrasonic Gas Leak Detector

**GASTRON**

**GTF-1100U**  
UV/IR Flame Detector

**GTF-1100T**  
Triple IR Flame Detector

**975MR**  
Triple IR Flame Detector

**975HR**  
Multi IR Flame Detector

**975UF**  
UV/IR Flame Detector

**975UR**  
UV/IR Flame Detector

**Incus Ultrasonic Gas Leak Detector**





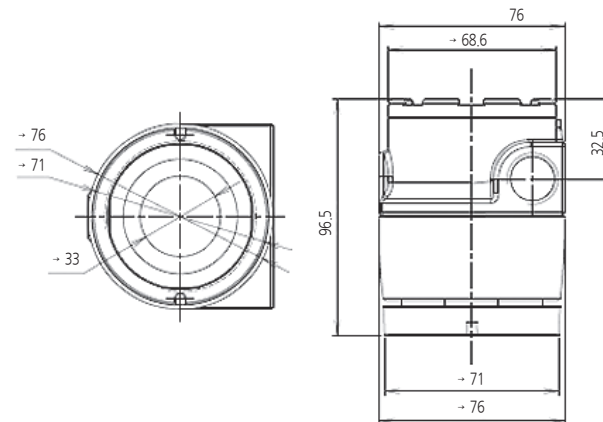
## GTF-1100U UV/IR Flame Detector

| 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) |

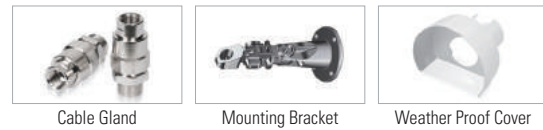
### IMAGE



### DIMENSION (Unit : mm)



### ACCESSORIES



### 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 <sup>3</sup> n-Heptane pan fire)
Field of View	Horizontal : 100° Vertical : 100°
Typical Response Time	Typical 5sec. (0.1 m <sup>3</sup> 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 or SUS316
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°C ≤ Ta ≤ 60°C, T5 = -50°C ≤ Ta ≤ 75°C, T4 = -50°C ≤ Ta ≤ 85°C FM : T6 = -40°C ≤ Ta ≤ 60°C, T5 = -40°C ≤ Ta ≤ 75°C
Operation Temperature	-40°C ~ 75°C
Storage Temperature	-50°C ~ 80°C
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

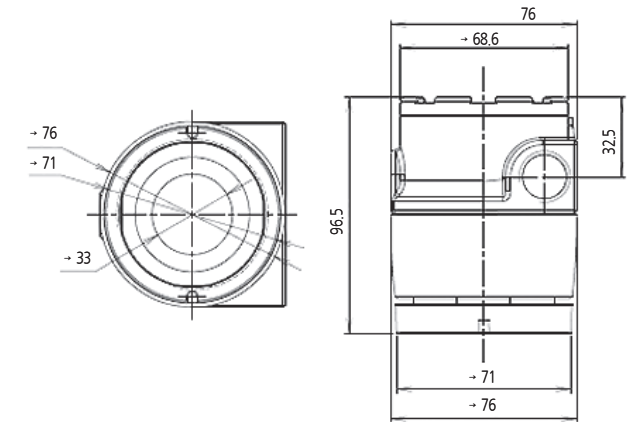
## GTF-1100T Triple IR Flame Detector

| 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) |

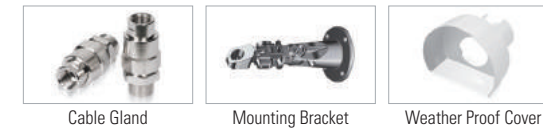
### IMAGE



### DIMENSION (Unit : mm)



### ACCESSORIES



### SPECIFICATION

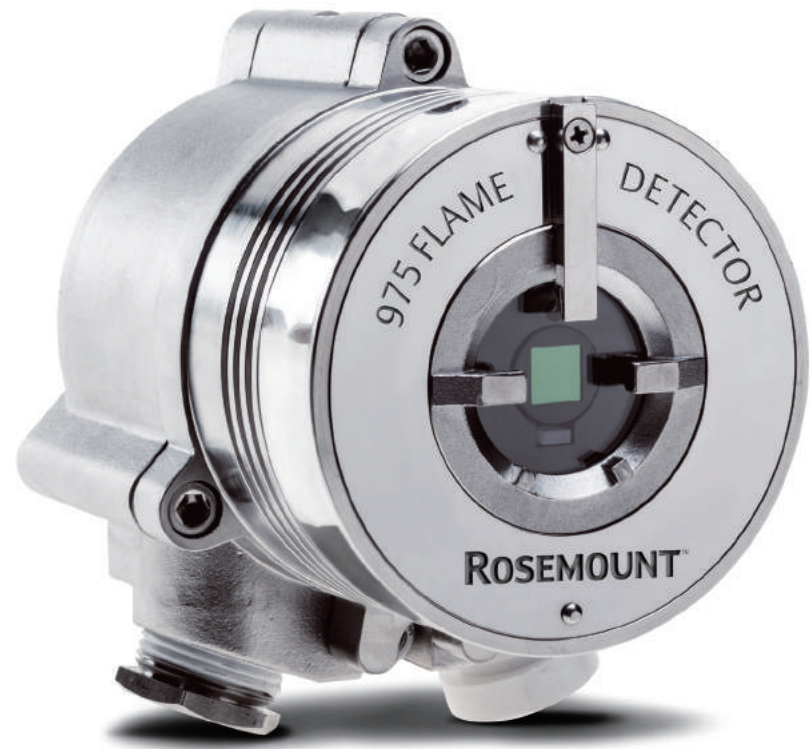
※ Specifications are subject to be changed without prior notice.

GTF - 1100T	
Wavelengths	3.8 - 5.5μm(IR)
Detection Distance	50m (0.1 m <sup>3</sup> n-Heptane pan fire) / KFI 60m (0.1 m <sup>3</sup> n-Heptane pan fire) / FM
Field of View	Horizontal : 100° Vertical : 100°
Typical Response Time	Typical 5sec. (0.1 m <sup>3</sup> 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 or SUS316
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°C ≤ Ta ≤ 60°C, T5 = -50°C ≤ Ta ≤ 75°C, T4 = -50°C ≤ Ta ≤ 85°C FM : T6 = -40°C ≤ Ta ≤ 60°C, T5 = -40°C ≤ Ta ≤ 75°C
Operation Temperature	-40°C ~ 75°C
Storage Temperature	-50°C ~ 80°C
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

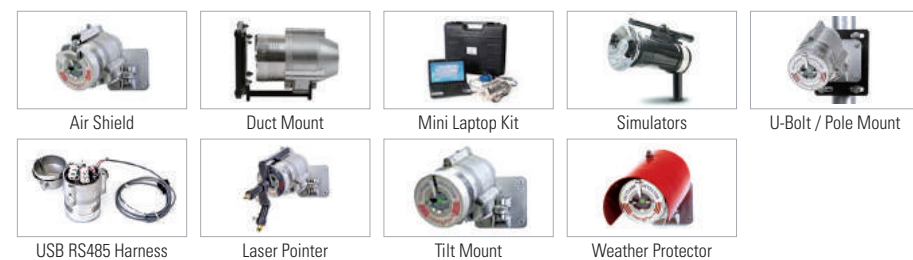
## 975MR Triple IR Flame Detector

| Multi spectrum design-for long distance detection and high false alarm immunity | Sensitivity selection-to ensure no zone crossover detection | Automatic and Manual Built-In-Test (BIT)-to assure continued reliable operation | Heated window-for operation in harsh weather conditions (snow, ice, condensation) | Multiple output options for maximum flexibility and compatibility - Relays (3) for Alarm, Fault and Auxiliary - 0-20mA (stepped) - Hart Protocol for maintenance and asset management - RS-485, Modbus Compatible | High Reliability-MTBF-minimum 150,000 hours | Approved to Safety Integrity Level 2 (SIL2-TUV) | 5-Year Warranty | User Programmable via HART or RS-485 |

### IMAGE



### ACCESSORIES



### SPECIFICATION

GENERAL SPECIFICATIONS						
Spectral Response	Three IR Bands					
	Fuel	ft / m	Fuel	ft / m	Fuel	ft / m
Detection Range (at highest Sensitivity Setting for 1ft2 (0.1m2) pan fire)	n-Heptane	215 / 65	Kerosene	150 / 45	Methane*	150 / 45
	Gasoline	215 / 65	Ethanol	135 / 40	LPG *	150 / 45
	Diesel Fuel	150 / 45	Methanol	115 / 35	Polypropylene Pellets	115 / 35
	JP5	150 / 45	IPA (Isopropyl Alcohol)	135 / 40	Office Paper	83 / 25
	* 20" (0.5m) high, 8" (0.2m) width plume fire					
Response Time	Typically 5 seconds					
Adjustable Time Delay	Up to 30 seconds					
Sensitivity Ranges	4 Sensitive ranges for 1 ft <sup>2</sup> (0.1 m <sup>2</sup> ) n-heptane pan fire from 50 ft (15m) to 215 ft (65m)					
Field of View	Horizontal 100°; Vertical 95°					
Built-in-Test (BIT)	Automatic (and Manual)					
Temperature Range	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)					
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods)					
Heated Optics	To eliminate condensation and icing on the window					

ELECTRICAL SPECIFICATIONS	
Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Standby: Max. 90mA (110mA with heated window) Alarm: Max. 130mA (160mA with heated window)
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring	12 - 22AWG (2.5mm <sup>2</sup> - 0.3mm <sup>2</sup> )
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected to EN61326-3 and EN61000-6-3
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)

OUTPUTS		
Relays	Alarm, Fault and Auxiliary	SPST volt-free contacts rated 2A at 30 VDC
0-20mA (stepped)	Sink (source option) configuration	
	Fault: 0 +1mA	Warning: 16mA ± 5% BIT Fault: 2mA ± 10%
	Alarm: 20mA ± 5%	Normal: 4mA ± 10% Resistance Loop: 100-600Ω
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options	
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations	

MECHANICAL SPECIFICATIONS		
Materials	- Stainless Steel 316L with electro polish finish	
Enclosure options	- Heavy duty copper free aluminum (less than 1%), red epoxy enamel finish (not available in FM version)	
Enclosure options	Stainless Steel 316L with electro polish finish	
Mounting	Detector 101.6 x 117 x 157 mm	
Dimensions	Detector (St.St.) 6.1 lb (2.8 kg)	Tilt mount 2.2 lb (1.0 kg) Detector, aluminum 2.8 lb (1.3 kg)
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp	
Water and Dust	IP66 and IP67 per EN60529, NEMA 250 6P	

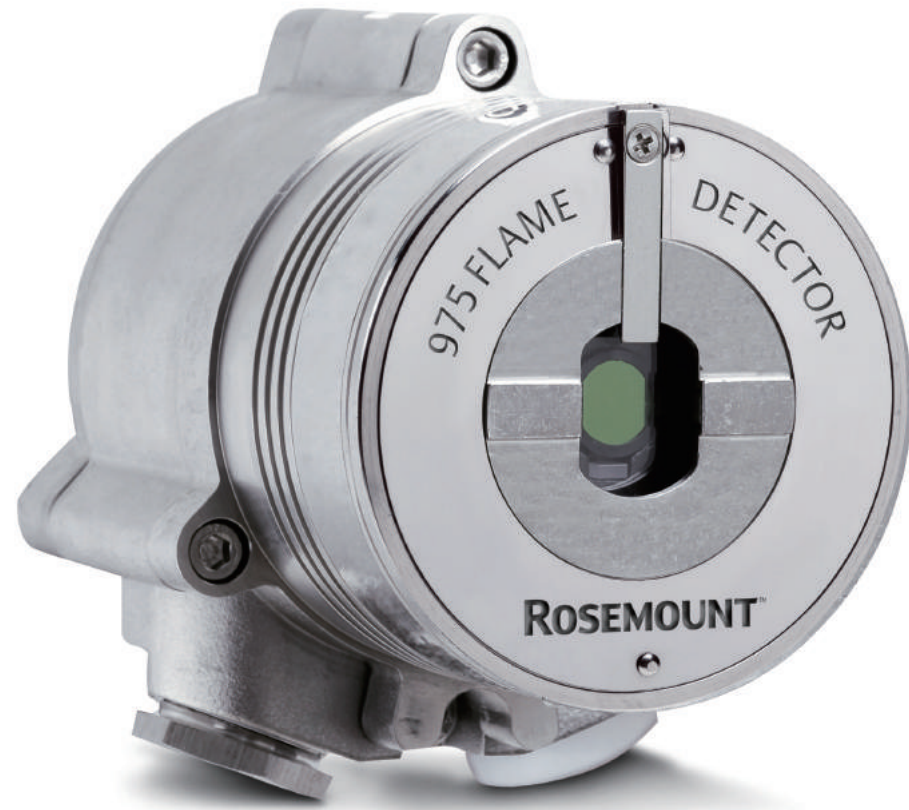
APPROVALS		
Hazardous Area	ATEX and IECEx : II 2 G D	or
	Ex db eb op is IIC T4 Gb Ex tb op is IIIC T96 °C Db (Ta -55 °C to +85 °C)	Ex db eb op is IIC T4 Gb Ex tb op is IIIC T106 °C (Ta -55 °C to +75 °C)
	FM/FMC/CSA : Class I Div.1, Groups B, C & D Class II/III Div.1, Groups E, F & G	
Performance	EN54-10 (VdS)	FM3260
Reliability	IEC61508 - SIL2 (TUV)	
Marine	MED 'Wheelmark' approval (DNV)	



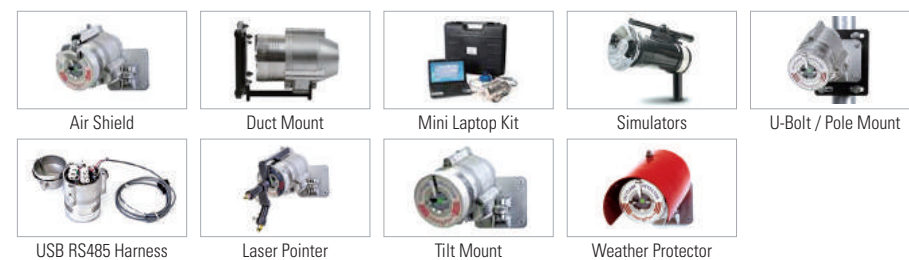
## 975HR Multi IR Flame Detector

| Multi spectrum design-for long distance detection of hydrocarbons and hydrogen flames | High false alarm immunity | Sensitivity selection-to ensure no zone crossover detection | Automatic and Manual Built-In-Test (BIT)-to assure continued reliable operation | Heated window-for operation in harsh weather conditions (snow, ice, condensation) | Multiple output options for maximum flexibility and compatibility - Relays (3) for Alarm, Fault and Auxiliary - 0-20mA (stepped) - HART Protocol for maintenance and asset management - RS-485, Modbus Compatible | High Reliability-MTBF-minimum 150,000 hours | Approved to Safety Integrity Level 2 (SIL2-TUV) | 5-Year Warranty | User Programmable via HART or RS-485 |

### IMAGE



### ACCESSORIES



### SPECIFICATION

GENERAL SPECIFICATIONS						
Spectral Response	Multi IR Bands					
	Fuel	ft / m	Fuel	ft / m	Fuel	ft / m
Detection Range [at highest sensitivity setting for 0.1 m <sup>2</sup> (1 ft <sup>2</sup> ) pan fire]	n-Heptane	215 / 65	Ethanol 95%	135 / 40	LPG *	150 / 45
	Gasoline	215 / 65	Methanol	115 / 35	Polypropylene Pellets	115 / 35
	Diesel Fuel	150 / 45	IPA (Isopropyl Alcohol)	135 / 40	Ammonia**	60 / 18
	JP5	150 / 45	Hydrogen*	125 / 38	Silane**	2 / 7
	Kerosene	150 / 45	Methane*	150 / 45	Office Paper	82 / 25
	*0.75 m (30 in.) high, 0.25 m (30 in.) width plume fire **0.5 m (25 in.) high, 0.2 m (8 in.) width plume fire					
Response Time	Typically 5 seconds					
Adjustable Time Delay	Up to 30 seconds					
Sensitivity Ranges	4 Sensitive ranges for 1 ft <sup>2</sup> (0.1 m <sup>2</sup> ) n-heptane pan fire from 50 ft (15m) to 215 ft (65m)					
Field of View	Horizontal 67°, Vertical 70° for Gasoline			Horizontal 80°, Vertical 80° for Hydrogen		
Built-in-Test (BIT)	Automatic (and Manual)					
Temperature Range	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)					
Humidity	Up to 95% non-condensing (withstands up to 100% relative humidity for short periods)					
Heated Optics	To eliminate condensation and icing on the window					

ELECTRICAL SPECIFICATIONS	
Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Standby: Max. 90mA (110mA with heated window) Alarm: Max. 130mA (160mA with heated window)
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring	12 - 22AWG (0.3mm <sup>2</sup> - 2.5mm <sup>2</sup> )
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected to EN61326-3 and EN61000-6-3
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)

OUTPUTS	
Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 2A at 30 VDC
0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA Warning: 16mA ± 5% BIT Fault: 2mA ± 10% Alarm: 20mA ± 5% Normal: 4mA ± 10% Resistance Loop: 100-600Ω
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations

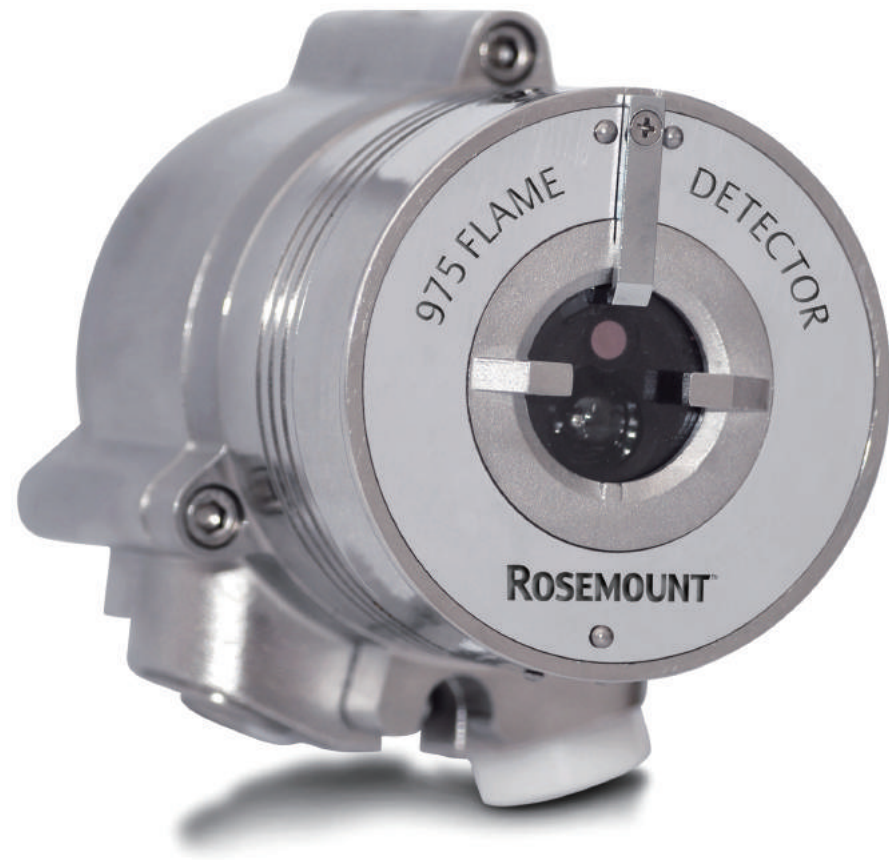
MECHANICAL SPECIFICATIONS	
Materials	Stainless Steel 316L with electro polish finish
Mounting	Stainless Steel 316L with electro polish finish
Dimensions	Detector 4" x 4.6" x 6.18" (101.6 x 117 x 157 mm)
Weight	Detector (St.St.) 6.1 lb (2.8 kg) Tilt mount 2.2 lb (1.0 kg) Detector, aluminum 2.8 lb (1.3 kg)
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
Water and Dust	IP66 and IP67 per EN60529, NEMA 250 6P

APPROVALS	
Hazardous Area	ATEX and IECEx : II 2 G D or Ex 2 G D Ex db eb op is IIC T4 Gb Ex db eb op is IIC T4 Gb Ex tb op is IIIC T96°C Db Ex tb op is IIIC T96°C Db (Ta -55°C to +85°C) (Ta -55°C to +75°C)
	FM/FMC/CSA : Class I Div. 1, Groups B, C, & D Class II/III Div.1, Groups E, F & G
Performance	EN54-10 (VdS) FM3260
Reliability	IEC61508 - SIL2 (TUV)

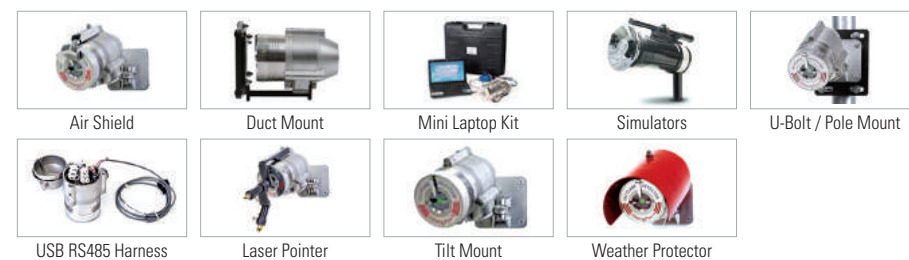
## 975UF UV/IR Flame Detector

UV/IR Dual-Sensor | Fast Response-200 msec to flash fire | Solar blind | Automatic Built-In-Test (BIT)\* and Manual-to assure continued reliable operation | Heated window-for operation in harsh weather conditions(snow, ice, condensation) | Multiple output options for maximum flexibility and compatibility - Relays (3) for Alarm, Fault and Auxiliary - 0-20mA (stepped) - HART Protocol for maintenance and assetmanagement - RS-485, Modbus Compatible | High Reliability-MTBF-minimum 150,000 hours | Approved to Safety Integrity Level 2 (SIL2-TUV) | model 40/40LB only | 5-Year Warranty User Programmable via HART or RS-485 |

### IMAGE



### ACCESSORIES



### SPECIFICATION

GENERAL SPECIFICATIONS						
Spectral Response	UV: 0.185 - 0.260 μm; IR: 2.5-3.0 μm					
Detection Range (at highest Sensitivity Setting for 1ft2 (0.1m2) pan fire)	Fuel	ft / m	Fuel	ft / m	Fuel	ft / m
	n-Heptane	66 / 20	Ethanol 95%	25 / 7.5	LPG *	43 / 13
	Gasoline	65 / 20	Methanol	26 / 8	Polypropylene Pellets	43 / 13
	Diesel Fuel	49 / 15	IPA (Isopropyl Alcohol)	43 / 13	Ammonia**	20 / 6
	JP5	49 / 15	Hydrogen*	37 / 11	Silane**	6 / 1.8
	Kerosene	49 / 15	Methane*	26 / 8	Office Paper	16 / 5
	* 20" (0.5m) high, 8" (0.2m) width plume fire					
Response Time	Typically 3 s. High speed 20 msec to flash fire					
Adjustable Time Delay	Up to 30 seconds					
Sensitivity Ranges	1 ft2 (0.1 m <sup>2</sup> ) n-heptane pan fire from 65 ft (20m)					
Field of View	Horizontal 100°; Vertical 95°					
Built-in-Test (BIT)	Automatic (and Manual)					
Temperature Range	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)					
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods)					
Heated Optics	To eliminate condensation and icing on the window					

ELECTRICAL SPECIFICATIONS	
Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Standby: Max. 90mA (110mA with heated window) Alarm: Max. 130mA (160mA with heated window)
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring	12 - 22AWG (0.3mm <sup>2</sup> - 2.5mm <sup>2</sup> )
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected to EN61326-3 and EN61000-6-3
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)

OUTPUTS	
Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 2A at 30 VDC
0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA Warning: 16mA ± 5% BIT Fault: 2mA ± 10% UV: 12 mA ± 5 % Alarm: 20mA ± 5% Normal: 4mA ± 10% Resistance Loop: 100-600Ω IR: 8 mA ± 5 %
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations

MECHANICAL SPECIFICATIONS	
Materials	Stainless Steel 316L with electro polish finish
Enclosure options	Heavy duty copper free aluminum (less than 1%), red epoxy enamel finish (not available in FM version)
Enclosure options	Stainless Steel 316L with electro polish finish
Mounting	Detector 4" x 4.6" x 6.18" (101.6 x 117 x 157 mm)
Dimensions	Detector (St.St.) 6.1 lb (2.8 kg) Detector, aluminum 2.8 lb (1.3 kg) Tilt mount 2.2 lb (1.0 kg)
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
Water and Dust	IP66 and IP67 per EN60529, NEMA 250 6P

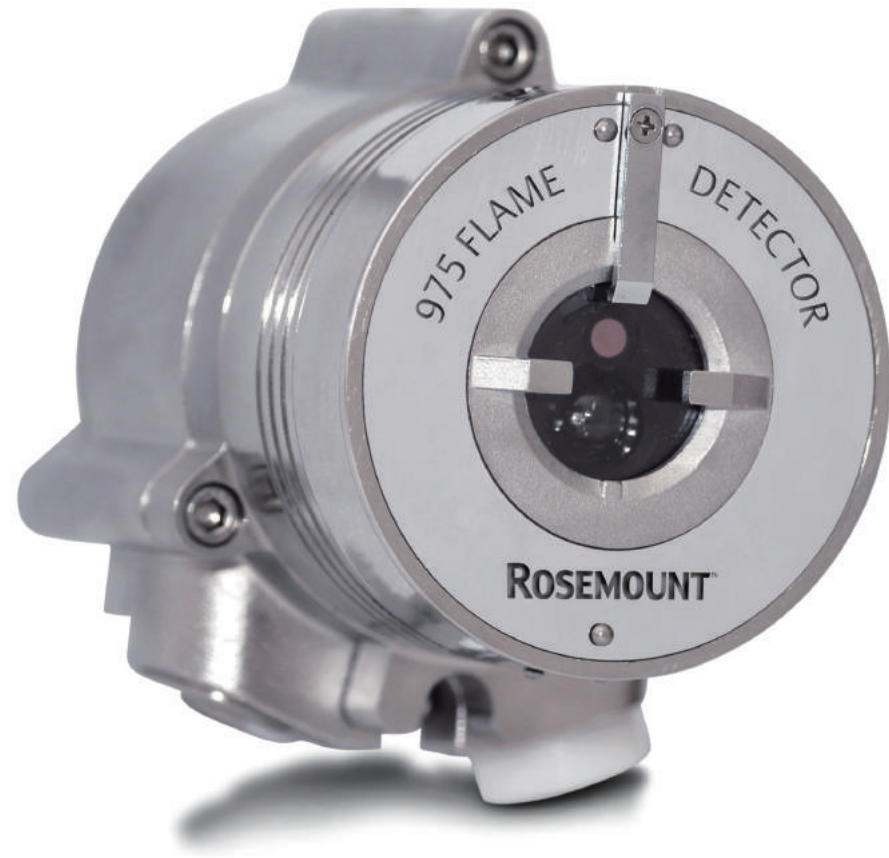
APPROVALS	
Hazardous Area	ATEX and IECEx : II 2 G D or Ex db eb op is IIC T4 Gb Ex tb op is IIIC T96°C Db (Ta -55°C to +85°C) Ex db eb op is IIC T4 Gb Ex tb op is IIIC T106°C Db (Ta -55°C to +75°C)
Performance	FM/FMC/CSA : Class I Div. 1, Groups B, C, & D Class II/III Div.1, Groups E, F & G EN54-10 (VdS) FM3260
Reliability	IEC61508 - SIL2 (TUV)
Marine	MED 'Wheelmark' approval (DNV)



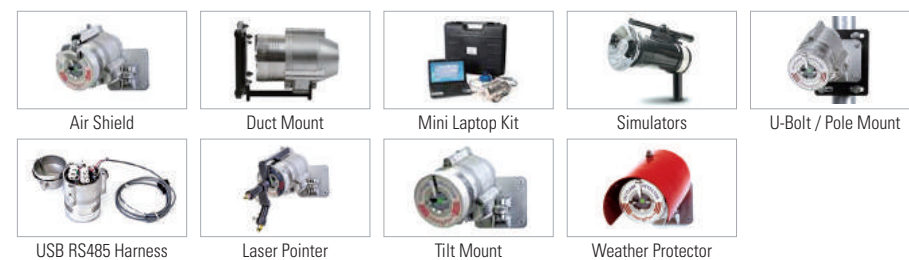
## 975UR UV/IR Flame Detector

UV/IR Dual-Sensor | High Speed Response-20 msec to flash fire | Solar blind | Automatic Built-In-Test(BIT) and manual-to assure continued reliable operation | Heated window-for operation in harsh weather conditions(snow, ice, condensation) | Multiple output options for maximum flexibility and compatibility - relays (2) for Alarm and Fault - Analogue output for fast detection - 0-20mA (stepped) - HART Protocol for maintenance and asset management - Designed to Safety Integrity Level 2 (SIL2-TUV) - 5-year warranty - User programmable via HART or RS-485 |

### IMAGE



### ACCESSORIES



### SPECIFICATION

GENERAL SPECIFICATIONS						
Spectral Response	UV: 0.185 - 0.260 μm; IR: 4.4-4.6 μm					
Detection Range (at highest Sensitivity Setting for 1ft2 (0.1m2) pan fire)	Fuel	ft / m	Fuel	ft / m	Fuel	ft / m
	n-Heptane	93 / 28	Ethanol 95%	23 / 7	Polypropylene Pellets	60 / 18
	Gasoline	93 / 28	Methanol	57 / 17	Alcohol 95%	57 / 17
	Diesel Fuel	70 / 21	IPA (Isopropyl Alcohol)	70 / 21	Office Paper	33 / 10
	JP5	70 / 21	Methane*	60 / 18		
	Kerosene	70 / 21	LPG *	60 / 18		
	* 20" (0.5m) high, 8" (0.2m) width plume fire					
Response Time	Typically 5 s.					
Adjustable Time Delay	Up to 30 seconds					
Sensitivity Ranges	1 ft2 (0.1m2) n-heptane pan fire from 92 ft (28m)					
Field of View	Horizontal 100°; Vertical 95°					
Built-in-Test (BIT)	Automatic (and Manual)					
Temperature Range	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)					
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods)					
Heated Optics	To eliminate condensation and icing on the window					

ELECTRICAL SPECIFICATIONS	
Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Standby: Max. 90mA (110mA with heated window) Alarm: Max. 130mA (160mA with heated window)
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring	12 - 22AWG (0.3mm <sup>2</sup> - 2.5mm <sup>2</sup> )
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected to EN61326-3 and EN61000-6-3
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)

OUTPUTS	
Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 2A at 30 VDC
0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA Warning: 16mA ± 5% BIT Fault: 2mA ± 10% IR: 8 mA ± 5 % Alarm: 20mA ± 5% Normal: 4mA ± 10% Resistance Loop: 100-600Ω UV: 12 mA ± 5 %
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations

MECHANICAL SPECIFICATIONS	
Materials	Stainless Steel 316L with electro polish finish Heavy duty copper free aluminum (less than 1%), red epoxy enamel finish (not available in FM version)
Mounting	Stainless Steel 316L with electro polish finish
Dimensions	Detector 4" x 4.6" x 6.18" (101.6 x 117 x 157 mm)
Weight	Detector (St.St.) 6.1 lb (2.8 kg) Detector, aluminum 2.8 lb (1.3 kg) Tilt mount 2.2 lb (1.0 kg)
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
Water and Dust	IP66 and IP67 per EN60529, NEMA 250 6P

APPROVALS	
Hazardous Area	ATEX and IECEx : II 2 G D or Ex db eb op is IIC T4 Gb Ex tb op is IIIC T96 °C Db (Ta -55 °C to +85 °C) or Ex db eb op is IIC T4 Gb Ex tb op is IIIC T106 °C Db (Ta -55 °C to +75 °C)
Performance	FM/FMC/CSA : Class I Div. 1, Groups B, C, & D Class II/III Div.1, Groups E, F, & G EN54-10 (VdS) FM3260
Reliability	IEC61508 - SIL2 (TUV)
Marine	MED 'Wheelmark' approval (DNV)

## Incus Ultrasonic Gas Leak Detector Ultrasonic Gas Detector

| Instantaneous response to all gas leaks (toxic, combustible, or inert) | Operates in extreme temperatures | Automated electronic self-test offers failsafe operation |  
 | Widest area of coverage through four independent sensors | 4–20 mA analog or stepped, "multi-drop" RS-485 digital interface, and HART® communication protocol | Certified worldwide for hazardous locations | Innovative mapping tool helps optimize coverage for a target risk | Programmable time delays screen intermittent unwanted alarm sources |

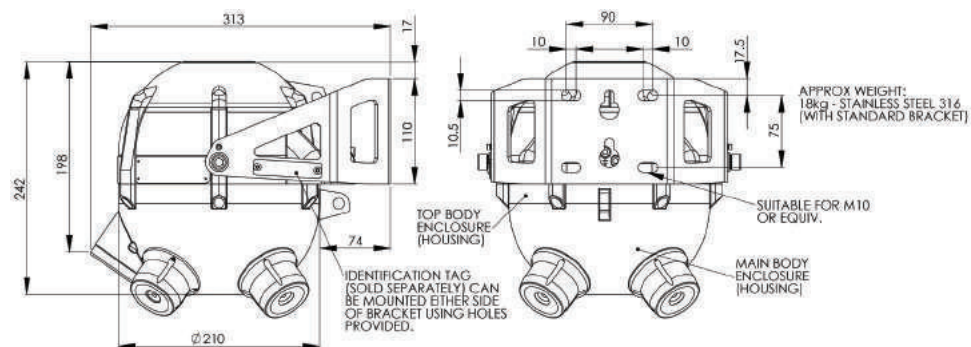
### IMAGE



### SPECIFICATION

ELECTRICAL SPECIFICATIONS	
Detection Frequency Range	25 kHz to 100 kHz
Dynamic Range	40–120 dB (standard); 58–104 dB or 40–200 dB
Area Coverage	2 to 20 meters (7 to 65 feet) radius (leak pressure, size and background level dependent)
Response Time	Instantaneous (< 1 s - speed of sound)
Programmable Alarm Delay	Configurable alarm delay via one second increments
Operating Temperatures	-40 °C to +85 °C (-40 °F to +185 °F), option -55 °C (-67 °F), NOT c FM us approved
Operating Humidity Range	0 to 100 % RH, non-condensing
Self Test	Continuous electronic check of sensor integrity
Ingress Protection	Rated IP66/67 & NEMA Type 4X to withstand harsh environments
Enclosure Material	AISI 316 Stainless Steel
Mounting Bracket	AISI 316 Stainless Steel (included)
Weight (with bracket)	18 kg (40 lbs)
Conduit Entry	½" or ¾" NPT Available as Single Entry (all listings) or M20/M25 Single Entry and all Dual Entry (all listings EXCEPT FM)*
Output Signals	Analog [0 mA: Zero/Low Power, 0.5 mA to 4.0 mA: Detector faults, 4–20 mA] Two Form C Relay Contacts [Error/Fault, Alarm, Maintenance] RS-485 Digital Interface HART® Protocol
Approvals/Classifications	IECEX : ITS 10.0004X ATEX : Ex d ib IIB+H2T4 Gb (Tamb -40 °C to +85 °C); (Tamb -55 °C to +85 °C) option c FM us : CL1 Division 1, GP B, C, D T4 CL1 Zone I, AEx/Ex d ib IIB+H2 T4 EAC : RU C-GB, Г Б 04.B.00297 KOSHA : 14-KB4B0-0294X INMETRO : UL-BR 15.0063X ABS : 13-LD1021861 DNV : A-13745 SIL2 : suitable EMC : EN 50270 2006, EN 61000-6-3 2007, EN 61000-6-2 2005*
Input Voltage	24 VDC (15 to 30 VDC)
Power Consumption	6 W - standard operation - GDU-01-TT Test Transmitter: Handheld Rechargeable Ultrasonic Sound Emitter
Accessories	- GDU-01-MT Mapping Tool: Handheld Rechargeable Ultrasonic Sound Receiver - GDU-PTV Performance Target Verification Kit

### DIMENSION (Unit : mm)







**GTL-200**  
Flame Proof Type Sounder & Beacon Combination

**BExBG Series**  
Flame Proof Type Xenon

**MB005**  
Non-Flame Proof Type Xenon Strobe Beacon

**BExS Series**  
Flame Proof Type Sounder

**MA112**  
Non-Flame Proof Type Sounder - Effective range  
100M

**BExCP3A / BExCP3B Series**  
Manual Call Point

**GASTRON**

# Alarm Signalling / Manual Call Point

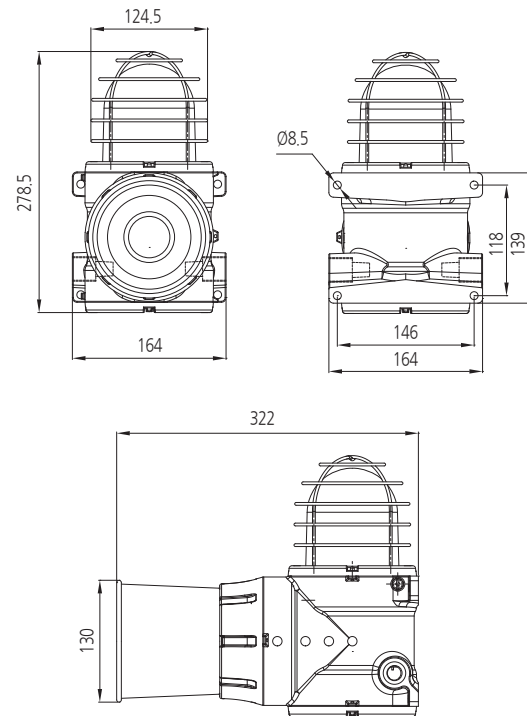
## GTL-200 Explosion Proof Type Sounder & Beacon Combination

| 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 : 120 dB | 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°C / T5,T4=-40 to 70°C		
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°C / T5,T4=-40 to 70°C
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 : heat-resistant 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°C / T5,T4=-40 to 70°C
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





## BExBG Series Explosion Proof Type Xenon

- | Automatic synchronisation on multi-beacon system. | Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems. | Xenon tubes mechanically secured against shock & vibration | Glass lens & Stainless Steel guard | Very large termination area. | Ratchet adjustable stainless steel 'U' bracket. |
- | IN & OUT terminals (Ex de version only) |

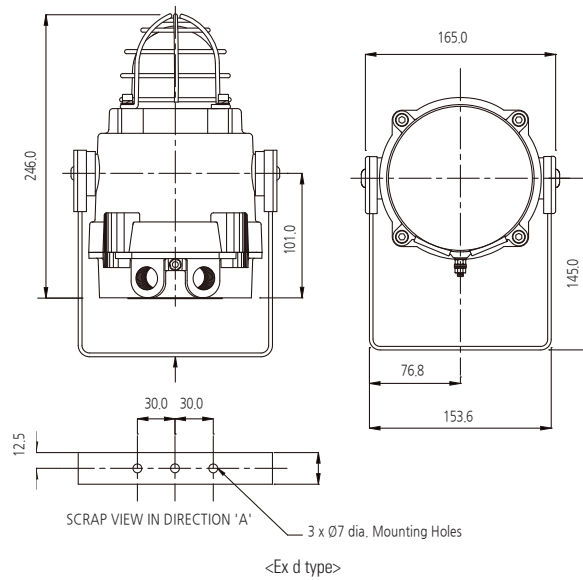
## MB005 Non-Explosion Proof Type Xenon Strobe Beacon

- | Automatic synchronised flash, or Flip-Flop alternating mode. | Xenon tube mechanically secured against vibration. | Continuously rated. | Large termination area. |
- | Stainless steel fixings. | Ratchet adjustable stainless steel 'U' bracket for 360° positioning. | Duplicate cable terminations (in & out for daisy-chain installations). |
- | Tropicalised as standard. |

### IMAGE



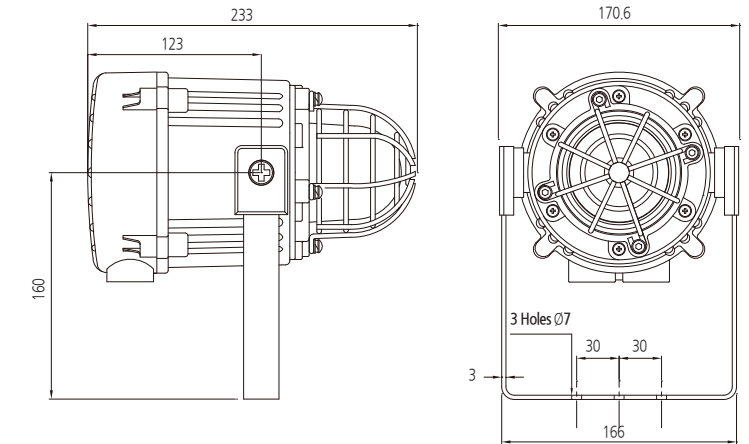
### DIMENSION (Unit : mm)



### IMAGE



### DIMENSION (Unit : mm)



### SPECIFICATION

\*All candela data is representative of performance with clear lens at optimum voltage.

	BExBG05	BExBG10	BExBG15
Energy	5 Joules (5Ws)	10 Joules (10Ws)	15 Joules (15Ws)
Flash rate	1Hz (60 fpm)		
Peak candela	500,000 cd - calculated from energy (J)	1,000,000 cd - calculated from energy (J)	1,500,000 cd - calculated from energy (J)
Effective intensity cd	250 cd - calculated from energy (J)	500 cd - calculated from energy (J)	750 cd - calculated from energy (J)
Peak candela	34,812 cd* - measured ref. to I.E.S.	79,531 cd* - measured ref. to I.E.S.	94,748 cd* - measured ref. to I.E.S.
Effective intensity cd	105 cd* - measured ref. to I.E.S.	346 cd* - measured ref. to I.E.S.	444 cd* - measured ref. to I.E.S.
Lens colours	Amber, Blue, Clear, Green, Red & Yellow		
Voltages DC	12VDC; 24VDC; 48VDC		
Voltages AC	115VAC; 230VAC		
Ingress protection	BG05D : IP66/67, BG05E : IP66	BG10D : IP66/67, BG10E : IP66	BG15D : IP66/67, BG15E : IP66
Housing material	Marine grade copper free LM6 Aluminium		
Housing finish	Phosphated & powder coated finish : anti-corrosion		
Colour	RAL3000 Red (others available on request)		
Cable entries	Dual M20 ISO (one stopping plug inc)		
Terminals	0.5 to 4.0mm <sup>2</sup> cables.		
Line monitoring	Min. 500 Ohm 2w, or 3k3 Ohm	0.5w res. or diode within	Exd enclosure (dc versions)
Tube life	Emissions are reduced to 70% after 8 million flashes		
Weight	DC: 2.45kg / AC: 2.75kg		
Approval	ATEX / IECEx II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +55°C II 2G Ex d IIC T6 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T115°C based on max. Ta. 70°C  GOST-R 1ExdIICT4 Ta. -50° to +55°C(BExBG05D**) 2ExdIICT4 Ta. -50°C to +55°C(BExBG05E**) DIP A21 Ta T4	ATEX / IECEx II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C  GOST-R 1ExdIICT4 Ta. -50°C to +55°C(BExBG10D**) 2ExdIICT4 Ta. -50°C to +55°C(BExBG10E**) DIP A21 Ta T4	ATEX / IECEx II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C  GOST-R 1ExdIICT4 Ta. -50°C to +55°C(BExBG15D**) 2ExdIICT4 Ta. -50°C to +55°C(BExBG15E**) DIP A21 Ta T4

### SPECIFICATION

※ Candela measurements representative of performance with clear lens at optimum voltage.

	MB005
Energy	15 Jjouless ((51W5Ws)s)
Flash rate	1Hz (60 fpm)
Peak candela	500,000 cd - calculated from energy (J)
Effective intensity cd	250 cd - calculated from energy (J)
Peak candela	16,428 cd* - measured ref. to I.E.S.
Effective intensity cd	51 cd* - measured ref. to I.E.S.
Lens colours	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC	12VDC; 24VDC; 48VDC
Voltages AC	115VAC; 230VAC
Ingress protection	IP66 & IP67 (Third party tested)
Housing material	High impact UL94 V0 & 5VA FR ABS
Colour	Grey (RAL7038)
Cable entries	2 x M20 supplied with 1 blanking plug
Lens material	Borosilicate glass dome with PC prismatic lens cover.
Guard	Stainless Steel dome guard as standard
Terminals	0.5 to 4.0mm <sup>2</sup> cables.
Operating temp	-25°C to +55°C
Storage temp	-40°C to +70°C
Relative humidity	90% at 20°C
Weight	1.48kg

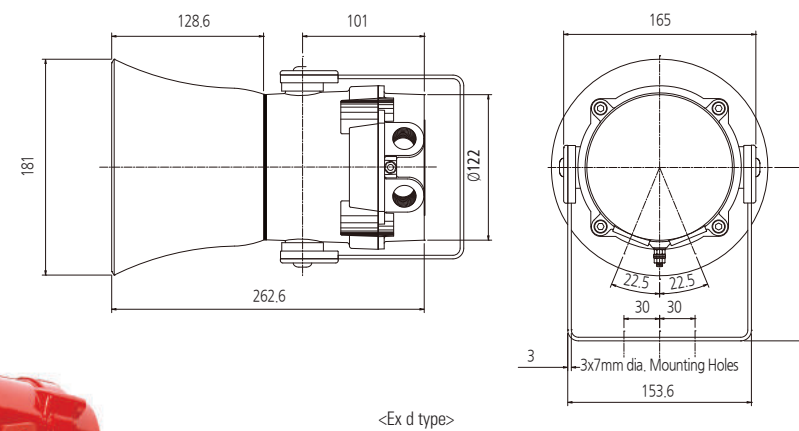
## BExS Series Explosion Proof Type Sounder

| Automatic synchronisation on multi-sounder system. | Very large termination area. | Ratchet adjustable stainless steel 'U' bracket. | IN & OUT terminals (Ex de version only). | 'Programmable' version available: - 45 alarm tones - 4 remotely selectable stages - Any tone can be assigned to Any stage - User configurable continuous frequency tone |

### IMAGE



### DIMENSION (Unit : mm)



### SPECIFICATION

※ SPL data +/-3dB(A). Measured at optimum voltage

	BExS110 / BExDS110	BExS120 / BExDS120
Maximum output	117dB(A) @ 1 metre	121dB(A) @ 1 metre
Nominal output	110dB(A) @ 1m +/- 3dB - Tone 2	117dB(A) @ 1m +/- 3dB - Tone 2
No. of tones	32 (UK00A / PFEER compliant)	
No. of stages	3	
Volume control	Max. 110dB(A) / Min. 72dB(A) - Tone 2	Max. 117dB(A) / Min. 108dB(A) - Tone 2
Effective range	100m @ 1KHz	200m @ 1KHz
Voltages DC	12VDC; 24VDC; 48VDC	
Voltages AC	115VAC; 230VAC	
Stage switching	Negative or positive	
Ingress protection	S110D : IP66/67, S110E : IP66	S120D : IP66/67, S120E : IP66
Housing material	Marine grade copper free LM6 Aluminium	
Housing finish	Phosphated & powder coated finish : anti-corrosion	
Colour	RAL3000 Red (others available on request)	
flare	High impact UL94 V0 & 5VA FR ABS(Red, BExS110) Anti-Static High impact ABS(Black, BExDS110)	High impact UL94 V0 & 5VA FR ABS(Red, BExS120) Anti-Static High impact ABS(Black, BExDS120)
Cable entries	Dual M20 ISO(one stopping plug inc)	
Terminals	0.5 to 4.0mm <sup>2</sup> cables.	
Line monitoring	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).	
Weight	DC: 3.00kg / AC: 3.20kg ATEX / IECEx	DC: 3.20kg / AC: 3.40kg ATEX / IECEx
Approval	II 2G Ex d IIB T4 Ta. -50°C to +70°C II 2G Ex d IIC T4 Ta. -50°C to +55°C  GOST-R 1ExdIICT4 Ta. -50°C to +55°C(BExS110D**) 2ExdIICT4 Ta. -50°C to +55°C(BExS110E**)	II 2G Ex d IIB T4 Ta. -50°C to +70°C II 2G Ex d IIC T4 Ta. -50°C to +55°C  GOST-R 1ExdIICT4 Ta. -50°C to +55°C(BExS120D**) 2ExdIICT4 Ta. -50°C to +55°C(BExS120E**)

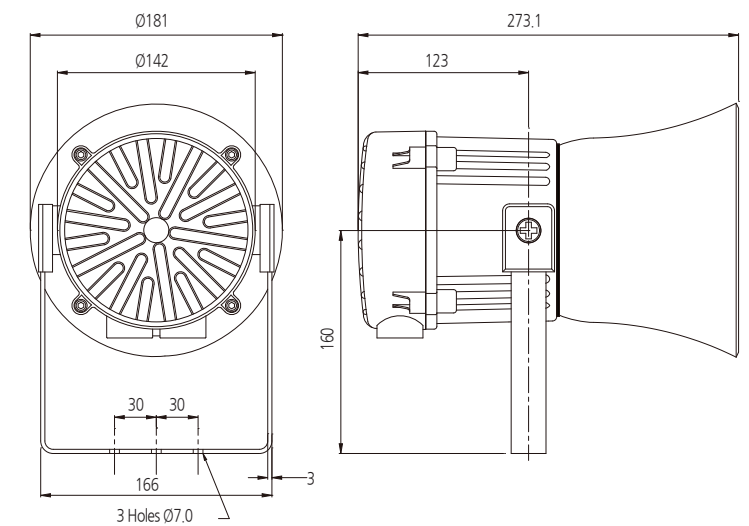
## MA112 Non-Explosion Proof Type Sounder - Effective range 100M

| Automatic synchronisation on multi-sounder system. | Continuously rated. | Large termination area. | Stainless steel fixings. | Ratchet adjustable stainless steel 'U' bracket for 360°positioning. | Duplicate cable terminations (in & out for daisy-chain installations). | Tropicalisation available on request. | Available with custom tone configurations and frequencies. | 'Programmable' version available: - 45 alarm tones - 4 remotely selectable stages - Any tone can be assigned to Any stage - User configurable continuous frequency tone |

### IMAGE



### DIMENSION (Unit : mm)



### SPECIFICATION

※ SPL data +/-3dB(A). Measured at optimum voltage

	MA112
Maximum output	119dB(A) @ 1 metre
Nominal output	112dB(A) @ 1m +/- 3dB - Tone 2
No. of tones	45 (UK00A / PFEER compliant)
No. of stages	3
Volume control	Max. 112dB(A); Min. 100dB(A) - Tone 2
Effective range	125m @ 1KHz
Voltages DC	24V dc (10-30V dc); 48V dc (35-60V dc) [DC units can use 24V ac for single stage applications.]
Voltages AC	24V ac; 115V ac; 230V ac
Stage switching	Negative or positive Reverse polarity stage switching on DC units.
Ingress protection	IP66 & IP67 (Third party tested)
Housing material	High impact UL94 V0 & 5VA FR ABS
Colour	Grey (RAL7038)
Cable entries	2 x M20 supplied with 1 blanking plug
Terminals	0.5 to 4.0mm <sup>2</sup> cables.
Operating temp	-25°C to +55°C
Storage temp	-40°C to +70°C
Relative humidity	90% at 20°C
Weight	DC: 2.50kg / AC:3.00kg

\*SPL data +/-3dB(A). Measured at optimum voltage



## BExCP3A / BExCP3B Series Manual Call Point

| Alternative housing colours are available to meet specific requirements. | DIN rail mounted terminal blocks: 8 x 2.5mm<sup>2</sup> | Stainless Steel lift flap | Metalised Polyester "Duty" label. | Series and/or End of Line resistors. |

### IMAGE



BG(Break glass type)

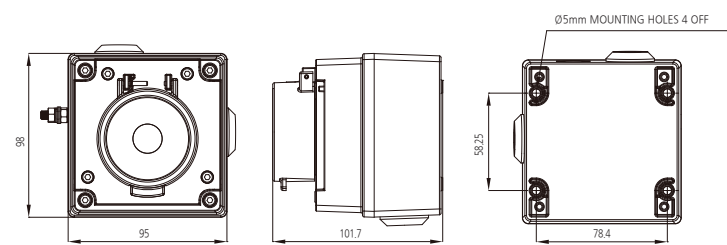
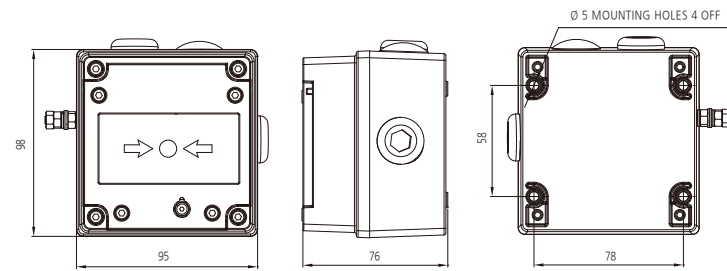


PB(Push button type)



PT(Tool reset type)

### DIMENSION (Unit : mm)



### SPECIFICATION

※ Specifications are subject to be changed without prior notice.

	BExCP3A(BG, PB, PT)	BExCP3B(BG, PB, PT)
Approval	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66
Ambient	Ta = -40°C to +55°C (+50°C for BExCP3B)	
Ingress protection	IP66	
Housing material	Marine grade copper free LM6 Aluminium	
Housing finish	Phosphated & powder coated finish : anti-corrosion	
Colour	RAL3000 Red (others available on request)	
Cable entries	2 x M20 clearance top and 1 x M20 clearance side Back box can be rotated to give 2 x bottom and 1 x side entries	
Stopping plugs	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional	
Terminals	6 x 4mm <sup>2</sup>	6 x 4mm <sup>2</sup> or 8 x 2.5mm <sup>2</sup> DIN rail
Voltage	250Vac Max. / 50Vdc Max.	56V dc Max. Rating <50V: 1.0A, >50V: 0.75A
Switch rating	5.0A Max. / 1.0A Max.	
Monitoring resistors	No	
Weight	0.8 Kg	





**GASTRON**

# Calibration Gas & Industrial Safety Product



**Can Gas**

**Cylinder**

**Acid Leak Detection paint**

**Safety Shield**






## 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 / cm<sup>2</sup>, low concentration gas that can not be burned is charged |

### IMAGE



## Cylinder Calibration

CYLINDERS				
Picture	Contents Service Pressure Dimension Weight	Material (Color)	Mixture Tolerance	Warranty
	11 Liters(10.7 Bar) 279 x 70mm(0.14 Kg)	Aluminum (Natural Aluminum)	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)			
	103 Liters(69 Bar) 352 x 83mm(1.4 Kg)	Steel (Beige)	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 (White)		
	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	Model 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	○	○	○			

## Acid Leak Detection paint Acid Leak Detection Paint

| Acid Leak Detection Paint that is a visual detection system to help quickly identify leaks in piping connections where acids or caustics are present. | It provides a physical color change so that operators, maintenance or other personnel can quickly identify a leak saving valuable time and money in locating the source of a leak versus using electronic detection devices. | Another unique property of the On Guard Detection Paint System is that after an "activation" or color change and the leaking component is fixed, the Acid Leak Detection paint can be neutralized and it will return to its Neutral color ready to activate again. This saves money by not having to re-coat the connection. | Recommend no more than 3-4 exposures before repainting. |



## FEATURES

	<ul style="list-style-type: none"> <li>- The Acid Detection Paint is YELLOW in a neutral state and changes to RED when it comes in contact with liquid 2.7 pH or below.</li> <li>- STORAGE TEMPERATURE : Minimum 7°C Maximum 43°C</li> <li>- COVERAGE RATE : 250 to 300 square feet per gallon</li> <li>- APPLICATION PROCEDURE : Apply ON GUARD™ to achieve 4 mil dry thickness (2-3 brush coats)</li> <li>- SURFACE TEMPERATURE : Minimum 40 °F (4 °C) / Maximum 120 °F (49°C)</li> <li>- CLEAN UP INSTRUCTIONS : Clean all equipment immediately after use with Xylene. Flush and clean spray equipment before material dries</li> <li>- APPLICATION EQUIPMENT : Air or airless spray, brush or roller</li> <li>- CAPACITY : 3.79 LITTER / 0.9 LITTER</li> </ul>
	<ul style="list-style-type: none"> <li>- Use as a top coat over primer. Make sure the surface is clean and free of any grease, dirt, or foreign material. Previously painted surfaces should be free of any loose or scaling paint. Scuff-sand overly smooth surfaces. Avoid spraying in windy or dusty conditions. Cover adjacent surfaces to protect them from overspray mist.</li> <li>- Vigorously shake can for at least 1 minute after hearing the ball rattle to ensure uniform color and to prevent clogging. Point spray button opening toward object holding can 12 to 14 inches from the surface to be sprayed. Press button firmly and use steady, even strokes during application. For best results, apply only when container temperature is 18°C ~ 32°C. Use when humidity is below 85%. Allow more dry time at cooler temperatures</li> <li>- STORAGE TEMPERATURE : Store at room temperature 20°C</li> <li>- COVERAGE RATE : one 12 oz can should cover 20-25 feet 2 with 2-3 thin, even coats.</li> <li>- Note : Multiple thin coats are better than one heavy coat.</li> <li>- CAPACITY : 12 OZ (340 grams)</li> </ul>
	<ul style="list-style-type: none"> <li>- Any bare or previously painted metal should be primed with a quality primer such as White Primer #315. It may be used over existing paint if the user is assured that the sub coating is stable and the surface is clean, dry, rust, dust, oil and contamination free.</li> <li>- CAPACITY : 3.79 LITTER</li> </ul>
	<ul style="list-style-type: none"> <li>- RTY Neutralizer is a specially formulated liquid contained in a spray bottle that aids in the neutralization of material pH 2.7 and below so that it can be safely cleaned up as well as helping return the Acid Detection paint back to its neutral color of YELLOW.</li> <li>- CAPACITY : 8 OZ (226 grams)</li> </ul>

### Applicable Acid & Gas

Hydrochloric Acid, Chlorine, Hydrofluoric Acid, Oxalic Acid, Nitric Acid, Nox, TFA (Trifluoroacetic Acid), Sulfuric Acid, Phosphoric Acid, Glacial Acetic Acid, Perchloric Acid, Citric Acid, Other acids and acid gases below pH 3

## Safety Shield

| Protect personnel from injury | Prevent damage to equipment | Detect leaks through a pH indication patch or visual | Reduce the clean up area after a material release |

## PRODUCTS



### PVC safety shield

- Suitability for temperatures up to 60°C and in the presence of certain chemicals, such as concentrated acids, only at lower temperatures.
- Wide applications, particularly in conditions with ambient temperatures and pressures of 21 bar or lower.
- Added benefit of a "See-Thru" feature, permitting easy visual inspection of pipe joint-flanges, valves and threaded connections



### PPL safety shield

- Used to protect against hydrofluoric acid, a highly virulent chemical that is used to etch glass and is also employed in petroleum cracking operations.
- Thermoplastic cloth demonstrates temperature and pressure resistance up to 225 °C and 76 bar.
- at sulfuric acid concentrations of 30% or less, are recommended up to line temperatures of 93 °C



### TEFLON safety shield

- Demonstrate resistance to temperatures up to 232°C pressures up to 114 bar and are inert to a wide spectrum of commercial chemicals.
- Outstanding protection against corrosion.
- Recommended in the chemical, pharmaceutical, electronic, pulp/paper, food processing industries, as well as other vital manufacturing applications in which corrosive chemicals at high temperatures are frequently used.
- For lines carrying sulfuric acid, this is most frequently specified.
- It can resist this acid at any concentration, including fuming oil.



### VUE safety shield

- "See-Thru" shield that permits easy identification and inspection of all pipe joints, including flanges, valves, threaded connections and expansion joints.
- Withstands temperatures up to 150°C and pressures to 69 bar.
- It demonstrates a broad spectrum of chemical resistance, especially to most corrosive chemicals and organic solvents.



### Metal safety shield

- Galvanized steel, "304" stainless steel, "316" stainless steel
- It is sufficiently heavy to withstand high pressures and also has flexibility to permit shaping
- Galvanized- Installed widely for water, oil and steam applications
- It is vulnerable to corrosive attack and should not be used on lines carrying hazardous chemicals
- Withstands temperatures up to 427°C and pressures to 207 bar.
- SUS304 - Applications requiring mild corrosion resistance Withstands temperatures up to 1454°C and pressures to 207 bar.
- SUS3016 - To give superior resistance to pitting and to most types of corrosion, making "316" suitable for applications involving severe corrosive conditions. Withstands temperatures up to 1454°C and pressures to 207 bar.



Unprotected 60PSI



Protected 60PSI





GASTRON

# Gas Monitoring System Configuration

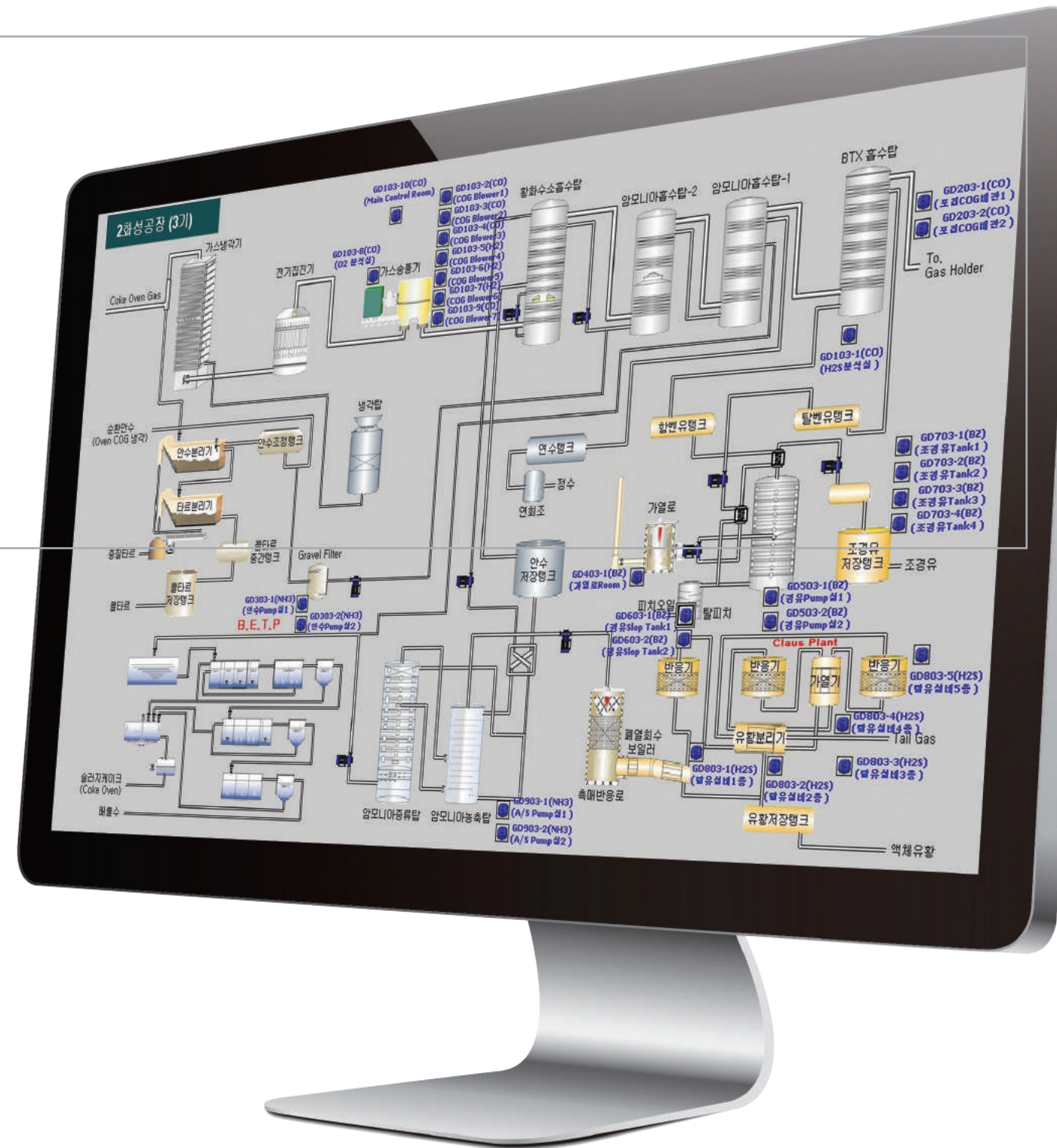
Configuration-1  
Gas Detector ↔ Receiver

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

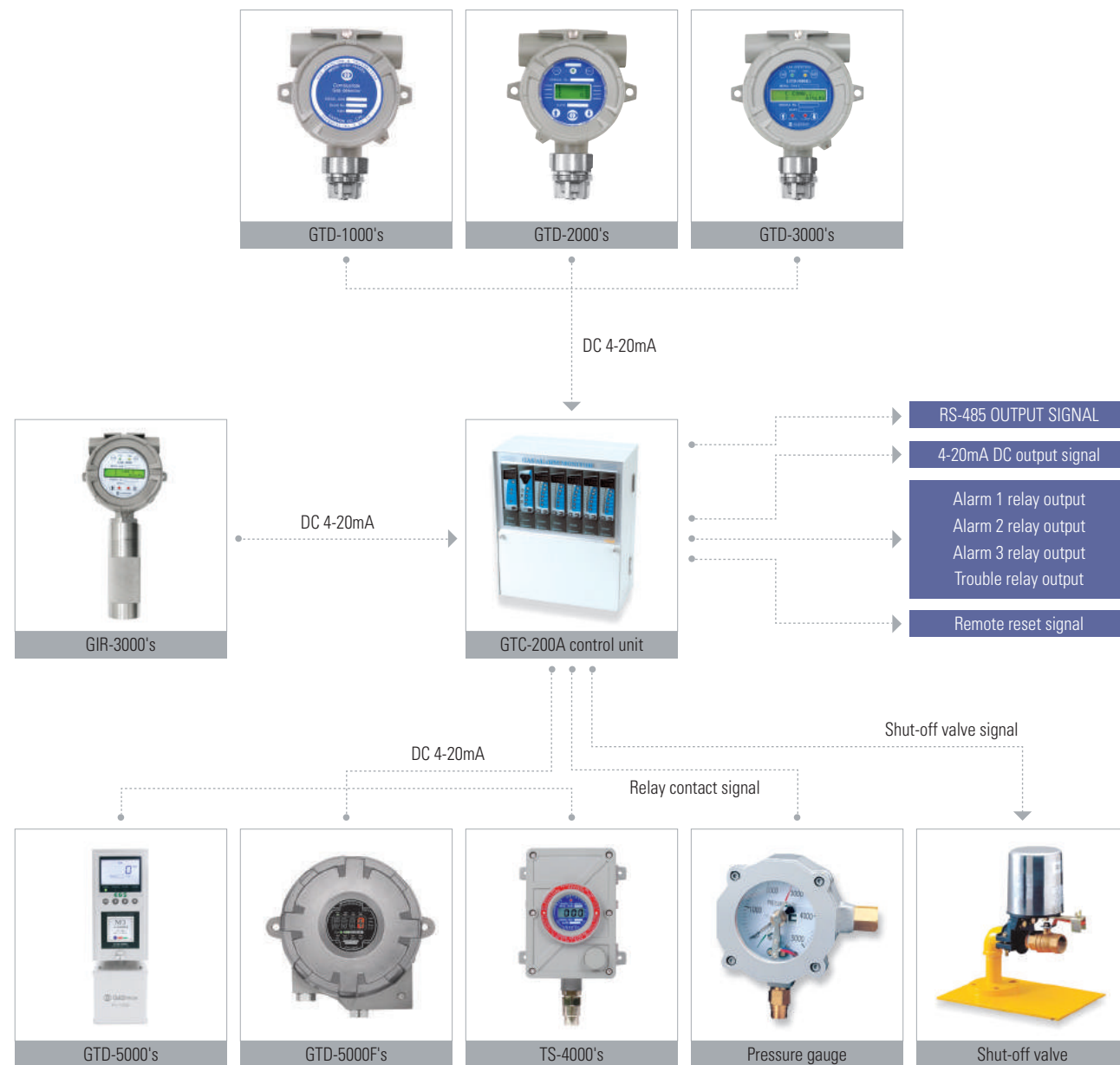


## Configuration-1 Gas Detector ↔ Receiver

- | 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 | 4-20mA DC 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.

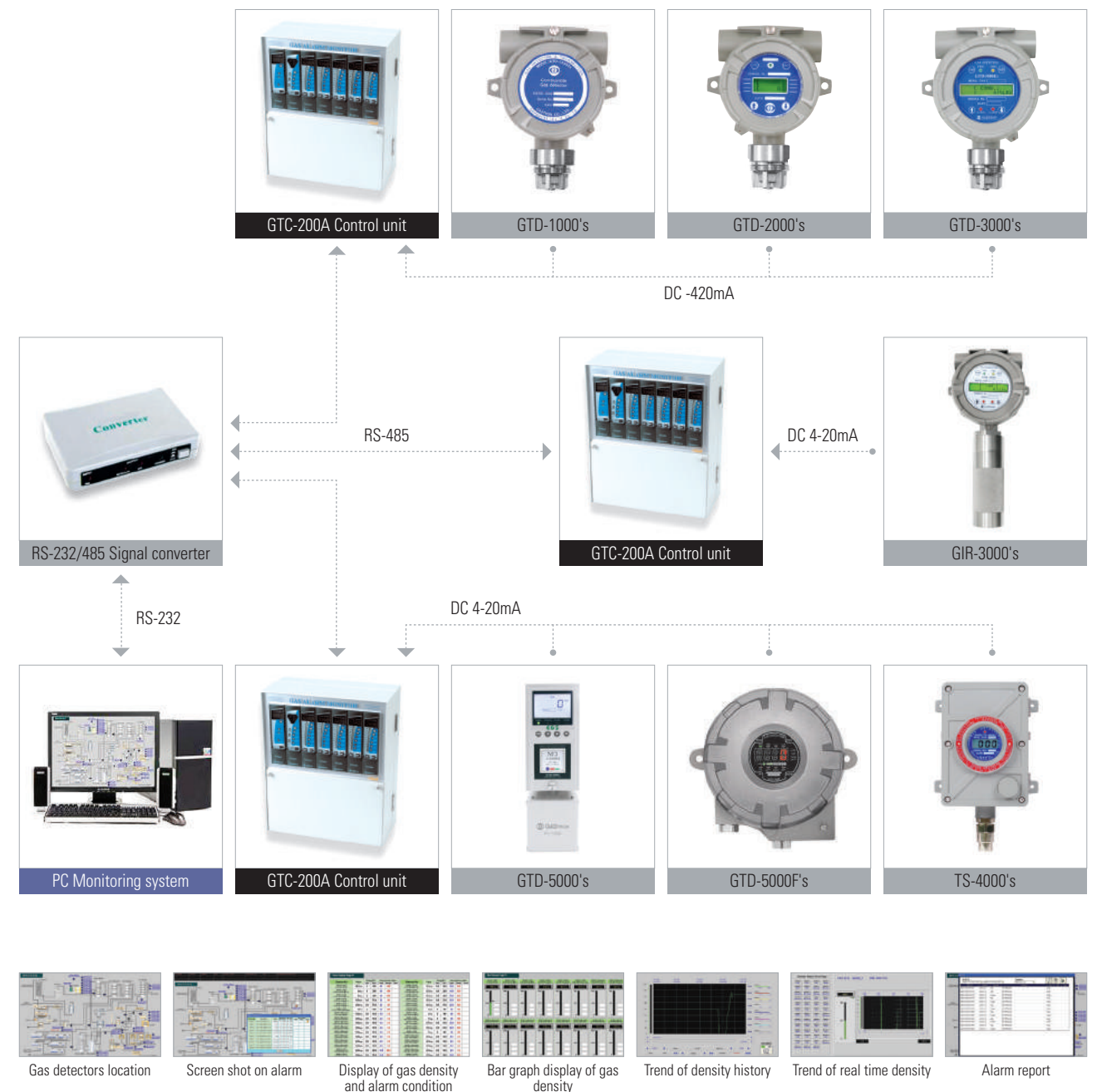


## Configuration-2 Gas Detector ↔ Receiver ↔ PC Monitoring System

- | 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.



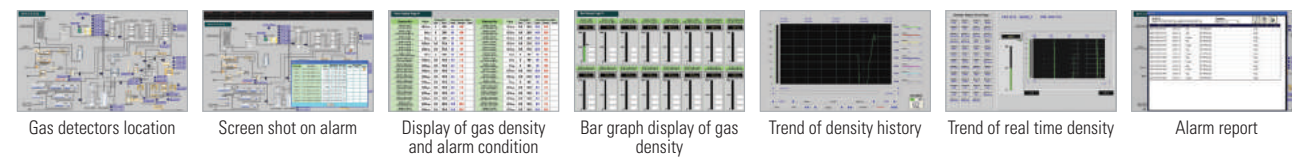
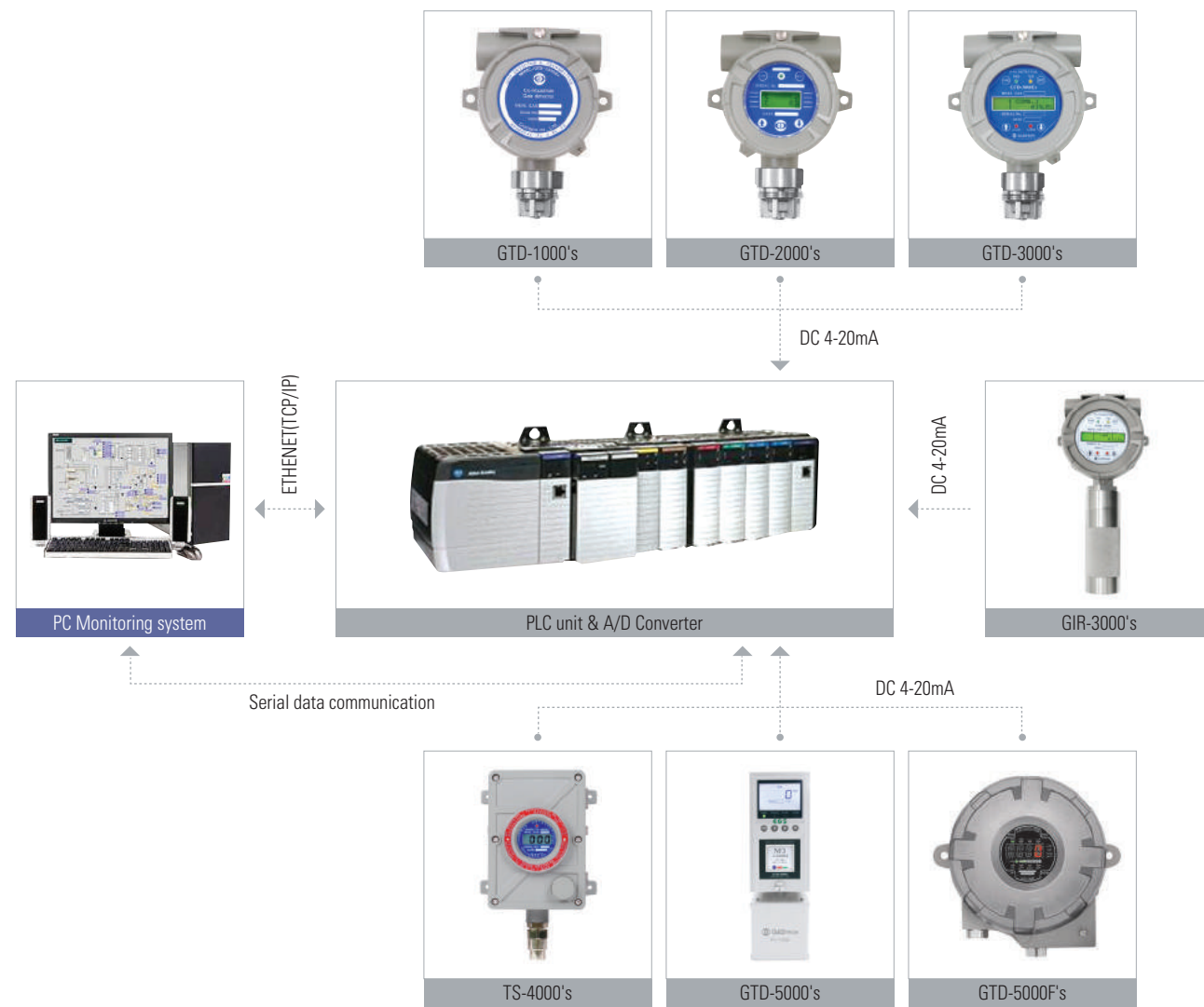


### Configuration-3 Gas Detector ↔ PLC & Signal Converter ↔ PC Monitoring System

- | 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.

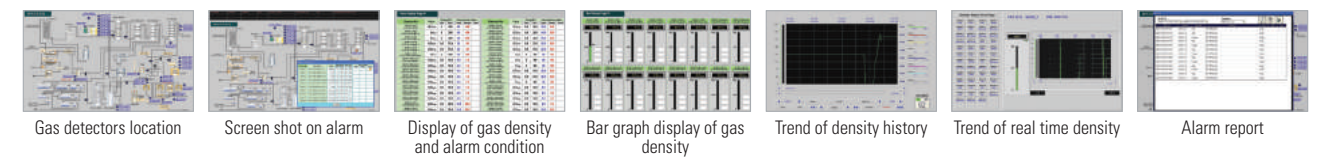
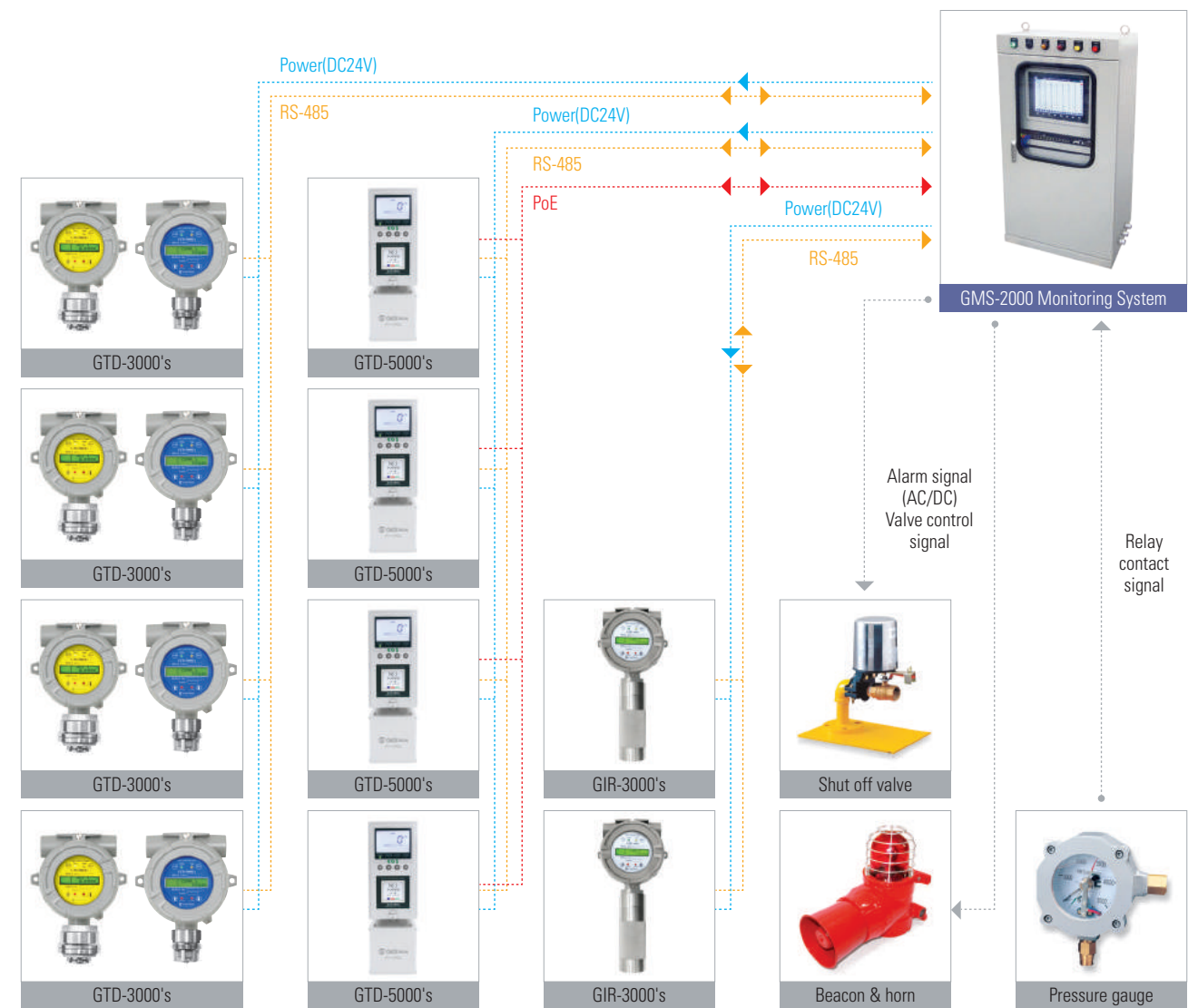


### Configuration-4 Gas Detector Serial Data Communication ↔ PC Monitoring System

- | 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 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.

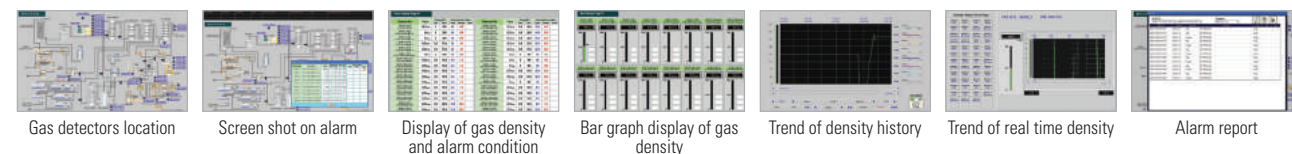
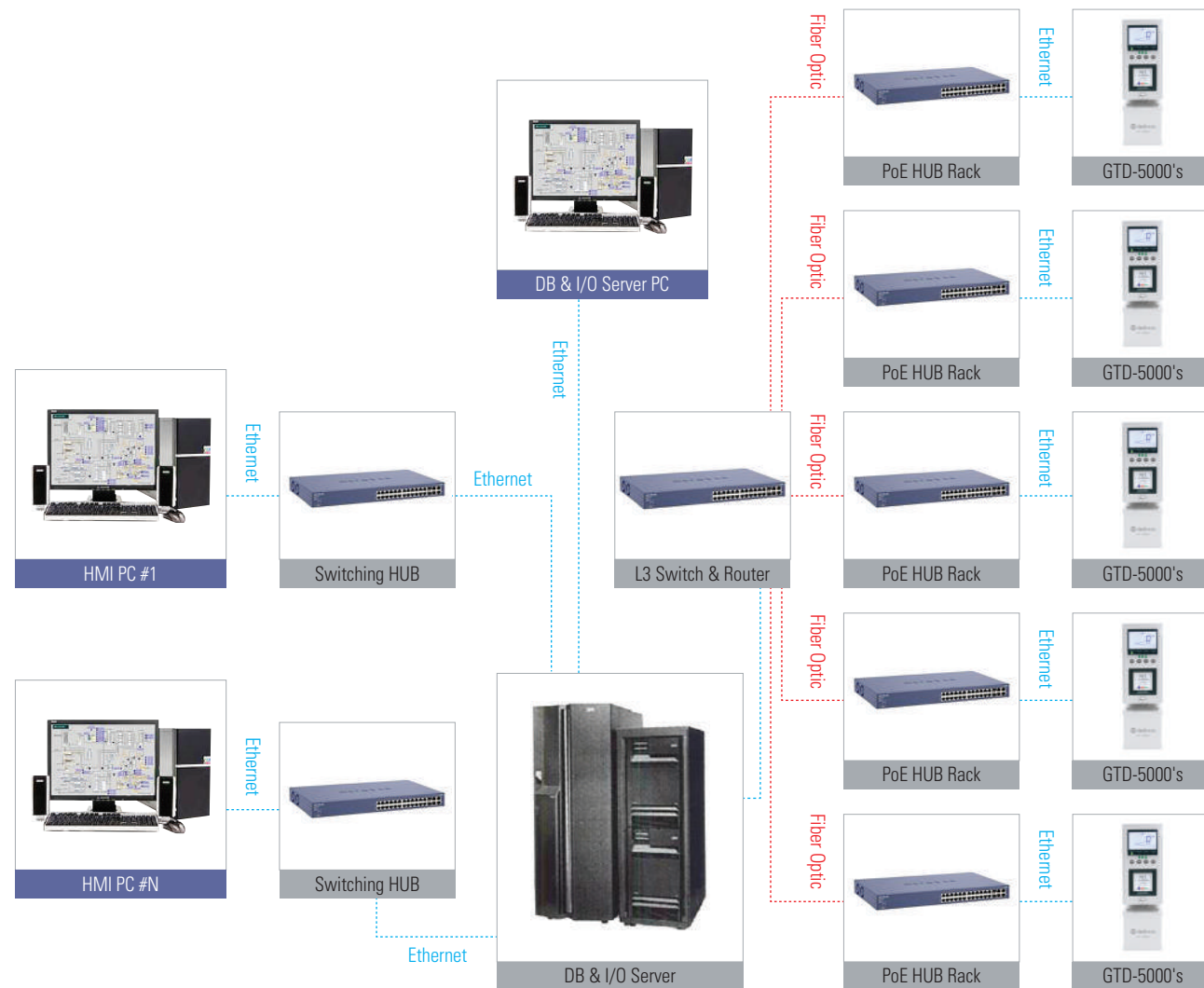


## Configuration-5 Gas Detector Serial Data Communication ↔ PC Monitoring System

| 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 (Power over 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	Tx : 500ppm
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	20	1.4	75-05-8	Ex : 100%LEL IR : 100%LEL
5	Acetyl acetone	C5H8O2	2.4	N/A	3.54	123-54-6	Tx : 30ppm
6	Acetylene	C2H2	2.5	N/A	0.91	74-86-2	Ex : 100%LEL
7	Acrylic acid(AA)	C3H4O2	2.4	2	2.5	79-10-7	Tx : 100ppm, 300ppm
8	Acrylonitrile(AN)	C3H3N	3	2	1.8	107-13-1	Ex : 100%LEL Tx : 1000ppm
9	Acryloyl Chloride	C3H3ClO	N/A	N/A	>1	814-68-6	Tx : 115ppm
10	Allyl alcohol	C3H6O	2.5	0.5	2	107-18-6	Tx : 20ppm PID : 400ppm
11	Allyl chloride	CH2=CHCH2Cl	2.9	1	2.6	107-05-1	Ex : 100%LEL Tx : 200ppm(*PY-1000)
12	Ammonia	NH3	15	25	0.59	7664-41-7	Ex : 100%LEL Tx : 75ppm
13	n-Amyl alcohol	C5H12O	1.1	N/A	3	71-41-0	Ex : 100%LEL
14	Aniline	C6H5NH2	1.3	2	3.2	62-53-3	Tx : 100ppm
15	Anisole	CH3OC6H5	0.3	N/A	3.7	100-66-3	IR : 100%LEL
16	Antimony pentachloride	SbCl5	N/A	0.5mg/m3	10.32	7647-18-9	Tx : 15ppm
17	Arsenic hydride(Arsine)	AsH3	N/A	0.005 ACGIH : 0.005 OSHA : 0.05	4.31	7784-42-1	Tx : 0.3ppm
18	Arsenic pentafluoride	AsF5	N/A	0.01mg/m3	N/A	7784-36-3	Tx : 9ppm
19	Arsenic trichloride	AsCl3	N/A	0.01mg/m3 (=0.0013ppm)	6.3	7784-34-1	Tx : 15ppm
20	Benzene	C6H6	1.2	0.5	2.8	71-43-2	Ex : 100%LEL IR : 100%LEL PID : 5ppm, 100ppm Tx : 1500ppm
21	Benzyl chloride	C7H7Cl	1.1	1	4.4	100-44-7	Tx : 500ppm(*PY-1000)
22	Boron tribromide	BBr3	N/A	STEL : C 1	8.6	10294-33-4	Tx : 9ppm
23	Boron trichloride	BCl3	N/A	N/A	4.03	10294-34-5	Tx : 15ppm
24	Boron Trifluoride Diethyl Etherate(BF3-Etherate)	C4H10BF3O	1.9	N/A	4.9	109-63-7	IR : 100%LEL
25	Boron trifluoride	BF3	N/A	STEL : C 1	2.4	7637-07-2	Tx : 9ppm, 20ppm
26	Bromine	Br2	N/A	0.1	3.12	7726-95-6	Tx : 3ppm
27	1-Bromo-3-chloropropane	C3H6BrCl	3.2	N/A	N/A	109-70-6	Tx : 500ppm
28	1-Butene	C4H8	1.60%	N/A	1.93	106-98-9	Ex : 100%LEL IR : 100%LEL
29	1,3-Butadiene	C4H6	1.10%	2	1.9	106-99-0	IR : 100%LEL PID : 10ppm, 200ppm
30	2-Butanol	C4H10O	1.7	100	2.55	78-92-2	Ex : 100%LEL IR : 100%LEL
31	i-Butane	C4H10	1.8	800	2.01	75-28-5	Ex : 100%LEL IR : 100%LEL SC : 2000ppm
32	Butyl acetate	C6H12O2	1.2	150	4	123-86-4	Ex : 100%LEL IR : 100%LEL
33	i-Butyl acetate	C6H12O2	1.3	150	4	110-19-0	Ex : 100%LEL IR : 100%LEL SC : 1000ppm
34	n-Butyl acrylate	C7H12O2	1.3	2	4.42	141-32-2	IR : 100%LEL
35	n-Butyl alcohol	CH3(CH2)2CH3OH	1.4	20	2.6	71-36-3	Ex : 100%LEL IR : 100%LEL Tx : 100ppm
36	tert-Butyl mercaptan	C4H10S	N/A	N/A	3.1	75-66-1	Tx : 50ppm
37	Carbon dioxide	CO2	N/A	5000	1.522	124-38-9	IR : 5%VOL, 20%VOL
38	Carbon disulfide	CS2	1	1	2.63	75-15-0	Tx : 100ppm
39	Carbon monoxide	CO	12.5	30 ACGIH: 25	0.97	630-08-0	IR : 2%VOL Tx : 150ppm, 300ppm
40	Carbonyl sulfide	COS	N/A	N/A	2.1	463-58-1	Tx : 100ppm, 2000ppm
41	Chloride	Cl2	N/A	0.5	2.5	7782-50-5	Tx : 3ppm
42	Chlorine dioxide	ClO2	>10	0.1	2.3	10049-04-4	Tx : 1ppm
43	Chlorine trifluoride	ClF3	N/A	STEL : C 0.1	3.18	7790-91-2	Tx : 1ppm



	Gas Name	Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges	
44	Chloroform	CHCl3	N/A	10	4.12	67-66-3	Tx : 30ppm(*PY-1000) 200ppm(*CEC)
45	Cumene	C9H12	0.9	50	4.2	98-82-8	Ex : 100%LEL IR : 100%LEL
46	Cyclohexane	C6H12	1.3	200	2.9	110-82-7	Ex : 100%LEL IR : 100%LEL
47	Cyclohexanone	C6H10O	1.1	25	3.4	108-94-1	Tx : 200ppm IR : 100%LEL
48	5-Cyclooctadiene	C8H12	1	N/A	3.66	11-78-4	IR : 100%LEL
49	Cyclopentane	C5H10	1.1	600	2.4	287-92-3	Ex : 100%LEL IR : 100%LEL
50	Diborane	B2H6	0.8	0.1	0.96	19287-45-7	Tx : 0.3ppm
51	Dibutylamine	C8H19N	N/A	N/A	0.7577	111-92-2	Tx : 700ppm
52	Dibutyl ether	C8H18O	1.5	N/A	4.5	142-96-1	Ex : 100%LEL IR : 100%LEL
53	1,2-Dichloroethane(EDC)	*CH2ClCH2Cl (C2H4Cl2)*	6.2	10	3.42	107-06-2	Ex : 100%LEL IR : 100%LEL Tx : 100ppm(*PY-1000)
54	*1,2-Dichloroethylene trans (DCE)*	C2H2Cl2	9.7	200 ACGIH : 200	3.34	156-60-5	Tx : 500ppm(*PY-1000) 500ppm(*CEC)
55	1,2-Dichloropropane	CH3CHClCH2Cl	3.4	10	3.9	78-87-5	Tx : 5000ppm(*PY-1000) 3000ppm(*PY-1000)
56	(3-Dimethylaminopropyl) dimethylindium(DADI)	(CH3)2In(CH2)3N(CH3)2	N/A	N/A	7.97	120441-92-1	Tx : 300ppm
57	Dichloromethane(R-30)	CH2Cl2	12	50	2.9	75-09-2	IR : 100%LEL Tx : 500ppm(PY-1000)
58	Dichlorosilane (DCS)	SiH2Cl2	4.1	N/A	3.48	4109-96-0	Tx : 15ppm
59	Di-Ethylamine(DEA)	(C2H5)2NH	1.8	5	2.5	109-89-7	Tx : 150ppm, 500ppm PID : 10ppm, 200ppm
60	Diethyl carbonate (DEC)	C5H10O3	1.4	N/A	4.1	105-58-8	Ex : 100%LEL IR : 100%LEL
61	Diethyl ether(Ethyl ether)	(C2H5)2O	1.7	400	2.6	60-29-7	Ex : 100%LEL IR : 100%LEL Tx : 1000ppm
62	Difluoro chloromethane(R22)	CHClF2	N/A	1000	3	75-45-6	Tx : 150ppm(*PY-1000) Tx : 5000ppm(*CEC) 8000ppm(*CEC)
63	Difluoromethane(R32)	CH2F2	N/A	N/A	N/A	75-10-5	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm(PY-1000) : 500ppm(CEC 1.5v)
64	Diisobutylene	C8H16	0.8	N/A	3.9	25167-70-8	Ex : 2%VOL
65	Di-isopropylamine	C6H15N	0.8	5	3.5	108-18-9	Ex : 100%LEL(poison) IR : 100%LEL Tx : 100ppm
66	Dimethoxymethane	C3H8O2	1.6	1000	2.6	109-87-5	IR : 100%LEL PID : 200ppm
67	Dimethylacetamide(DMAC)	C4H9NO	1.8	10	3.01	127-19-5	Ex : 100%LEL(100°C) PID : 15ppm, 200ppm Tx : 150ppm
68	Di-Methylamine(DMA)	(CH3)2NH	2.8	5	1.6	124-40-3	Ex : 100%LEL IR : 100%LEL Tx : 100ppm, 300ppm PID : 15ppm, 300ppm
69	Di-Methyl carbonate(DMC)	C3H6O3	4.2	N/A	3.1	616-38-6	Ex : 100%LEL IR : 100%LEL
70	Dimethyl dichlorosilane		1.4	N/A	4.4	68611-44-9	Tx : 50ppm
71	Dimethyl disulphide (DMDS)	C2H6S2	1.1	AGGIH : 0.5	3.24	624-92-0	Tx : 50ppm PID : 3ppm, 40ppm
72	Dimethylether	(CH3)2O	3.4	N/A	1.6	115-10-6	EX : 100%LEL IR : 100%LEL
73	N,N-Dimethylformamide	C3H7NO	2.2	10	2.5	68-12-2	SC : 200ppm PID : 10ppm, 200ppm
74	Dimethyl Sulfide(DMS)	C2H6S	2.2	ACGIH : 10	2.1	75-18-3	Tx : 100ppm
75	Dimethyl sulfoxide(DMSO)	C2H6SO	2.6	N/A	2.7	67-68-5	Tx : 150ppm
76	1,4-Dioxane	C4H8O2	2	20	3.03	123-91-1	Ex : 100%LEL IR : 100%LEL
77	Disilane	Si2H6	1	N/A	2.15	1590-87-0	Tx : 15ppm
78	Di-Phenylether	(C6H5)2O	0.8	1	5.9	101-84-8	PID : 10ppm , 200ppm

	Gas Name	Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges	
80	Ethane	C2H6	3	ACGIH : 1000	1.05	74-84-0	Ex : 100%LEL
81	Ethanol	C2H5OH	3.3	1000	1.59	64-17-5	Ex : 100%LEL IR : 100%LEL Tx : 50ppm , 100ppm
82	Ethanolamine	NH2(CH2)2OH	5.5	3	2.1	141-43-5	Tx : 500ppm
83	Ethyl acetate	CH3CO2C2H5	2.2	400	3	141-78-6	Ex : 100%LEL IR : 100%LEL Tx : 500ppm
84	Ethyl acrylate	C5H8O2	1.4	5	3.45	140-88-5	Ex : 100%LEL IR : 100%LEL Tx : 250ppm
85	Ethyl amine	C2H5NH2	3.5	5	1.55	75-04-7	Tx : 100ppm
86	Ethyl benzene	C8H10	1	100	3.7	100-41-4	Ex : 100%LEL IR : 100%LEL Tx : 150ppm
87	Ethyl chloride	C2H5Cl	3.6	1000 ACGIH : 100	2.22	75-00-3	Tx : 150ppm(*PY-1000)
88	Ethylene	C2H4	2.7	ACGIH : 200	0.98	74-85-1	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm
89	Ethylene diamine(EDA)	C2H8N2	2.5	10	2.1	107-15-3	Ex : 100%LEL IR : 100%LEL Tx : 1000ppm
90	Ethyl formate	C3H6O2	2.7	100	2.55	109-94-4	Ex : 100%LEL IR : 100%LEL Tx : 200ppm SC : 500ppm
91	*Ethylene glycol monomethyl ether (EGME) = 2-methoxy ethanol = methyl cellosolve*	C3H8O2	2.3	5	2.62	109-86-4	Ex : 100%LEL IR : 100%LEL Tx : 20ppm
92	Ethylene oxide(EO)	C2H4O	3	1	1.5	75-21-8	Ex : 100%LEL IR : 100%LEL Tx : 30ppm, 100ppm
93	Ethyl Lactate	C5H10O3	1.5	N/A	4.07	97-64-3	IR : 100%LEL
94	Ethyl methyl carbonate(EMC)		N/A	N/A	N/A	623-53-0	SC : 500ppm PID : 300ppm, 5000ppm Tx : 1500ppm
95	Ethyl mercaptan (EtSH, Ethanethiol)	C2H6S	2.8	0.5	2.14	75-08-1	IR : 100%LEL Tx : 50ppm PID : 10ppm, 200ppm
96	Fluorine	F2	N/A	0.1 AGGIH : 1	1.3	7782-41-4	Tx : 3ppm
97	Fluoroform(R-23)	CHF3	N/A	N/A	2.4	75-46-7	Tx : 9000ppm(*PY-1000)
98	Fluoromethane	CH3F	N/A	N/A	1.195	593-53-3	Tx : 2000ppm(*PY-1000) 2000ppm(*CEC)
99	Formaldehyde	CH2O	7	0.3	1.067	50-00-0	Tx : 10ppm
100	Formic acid	HCOOH	18	5	1.6	64-18-6	Tx : 20ppm, 50ppm
101	Furfural	C5H4O2	2.1	2	3.31	98-01-1	Tx : 15ppm
102	Furfural alcohol	C5H6O2	1.8	10 0.2mg/m3	3.4	98-00-0	Tx : 20ppm
103	Germane	GeH4	N/A	0.2	2.65	7782-65-2	Tx : 1ppm, 3ppm, 7ppm, 15ppm
104	Germanium tetrachloride	GeCl4	N/A	N/A	7.4	10038-98-9	Tx : 15ppm
105	Germanium tetrafluoride	GeF4	N/A	N/A	N/A	7783-58-6	Tx : 9ppm
106	G3	C2F4O	N/A	N/A	N/A		Tx : 200ppm
107	Helium	He	N/A	N/A	0.14	7440-59-7	TC : 100%VOL
108	n-Heptane	C7H16	1.1	400	3.46	142-82-5	Ex : 100%LEL IR : 100%LEL
109	n-Hexane	C6H14	1.1	50	3	110-54-3	Ex : 5000ppm, 100%LEL IR : 100%LEL
110	Hexachlorodisilane(HCDS)	SiCl6	N/A	N/A	9.2	13465-77-5	Tx : 20ppm
111	Hexafluorobutadiene	C4F6	7	N/A	N/A	685-63-2	IR : 2000ppm Tx : 100ppm(*PY-1000) 2000ppm(*PY-1000) 2000ppm(*CEC)
112	Hexamethyldisilazane(HMDS)	C6H19NSi2	0.8	N/A	4.6	999-97-3	IR : 100%LEL Tx : 30ppm
113	Hexamethyldisiloxane(HMDSO)	C6H18OSi	0.5	N/A	N/A	107-46-0	IR : 100%LEL Tx : 100ppm

	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
114	Hydrogen	H2	4	N/A	0.07	1333-74-0	TC : 100%VOL Ex : 100%LEL Tx : 2000ppm
115	Hydrogen bromide	HBr	N/A	STEL : C 2	2.8	10035-10-6	Tx : 30ppm
116	Hydrogen chloride	HCl	N/A	1	1.3	7647-01-0	Tx : 3ppm, 10ppm
117	Hydrogen cyanide (AC)	HCN	5.6	STEL : C 4.7	0.94	74-90-8	Tx : 30ppm
118	Hydrogen fluoride	HF	N/A	0.5	0.69	7664-39-3	Tx : 6ppm
119	Hydrogen peroxide	H2O2	N/A	1	1.17	7722-84-1	Tx : 100ppm
120	Hydrogen selenide	H2Se	N/A	0.05	2.8	7783-07-5	Tx : 0.25ppm
121	Hydrogen sulfide	H2S	4.3	10	1.19	7783-06-4	Tx : 30ppm
122	Isoamyl alcohol	C5H12O	1.2	100	3	123-51-3	IR : 100%LEL
123	Isobutyl alcohol	C4H10O	1.7	50	2.55	78-83-1	IR : 100%LEL
124	isooctyl alcohol (2-ethyl-1-hexanol)	C8H18O	0.88	N/A	4.49	104-76-7	Ex : 100%LEL(150°C)
125	iso-propyl alcohol(IPA)	C3H7OH	2	200	2.1	67-63-0	Ex : 100%LEL IR : 100%LEL Tx : 50ppm, 100ppm
126	iso-propyl amine	C3H9N	2.3	5	2.04	75-31-0	Tx : 150ppm
127	Methane	CH4	5	N/A	0.554	74-82-8	Ex : 100%LEL IR : 100%LEL
128	Methoxycyclopentane	C6H12O	1.1	2mg/m3	3.5	5614-37-9	Ex : 100%LEL IR : 100%LEL
129	Methyl acetate	C3H6O2	3.1	200	2.6	79-20-9	Ex : 100%LEL IR : 100%LEL
130	Methyl acrylate(MA) Methyl acrylate Monomer(MAM)	C4H6O2	2.8	2	3	96-33-3	Ex : 100%LEL IR : 100%LEL Tx : 200ppm
131	Methyl alcohol(MeOH)	CH3OH	5.5	200	1.1	67-56-1	Ex : 100%LEL IR : 100%LEL Tx : 30ppm, 50ppm
132	Methyl amine	CH5N	4.9	5	1.07	74-89-5	Tx : 100ppm
133	n-Methylaniline	C7H9N	N/A	0.5	3.7	100-61-8	Tx : 200ppm
134	Methyl bromide	CH3Br	10	1	3.3	74-83-9	Tx : 100ppm(*PY-1000)
135	Methyl chloride(MC , R40)	CH3Cl	8.1	50	1.8	74-87-3	Ex : 100%LEL(poison) IR : 100%LEL Tx : 1500ppm(*PY-1000)
136	Methyl chloroformate(MCF)	C2H3ClO2	6.7	N/A	3.3	79-22-1	IR : 100%LEL Ex : 100%LEL SC : 200ppm
137	Methyl cyclohexane(MCH)	C7H14	1.2	400	3.4	108-87-2	Ex : 100%LEL IR : 100%LEL
138	Methyl chlorosilane(MCS)	N/A	5.9	N/A	N/A	993-00-0	Tx : 15ppm
139	Methyl trichlorosilane(MTCS)	CH3Cl3Si	7.2	N/A	N/A	75-79-6	Tx : 15ppm
140	Methyl ethyl ketone(MEK)	C4H8O	1.8	200	2.41	78-93-3	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm
141	Methyl isobutyl ketone(MIBK)	C6H12O	1.4	50	3.5	108-10-1	Ex : 100%LEL IR : 100%LEL Tx : 1000ppm
142	Methacrylic acid(MAA)	C4H6O2	1.6	20	2.97	79-41-4	IR : 100%LEL Tx : 60ppm PID : 60ppm
143	Methyl mercaptan(MeM)	CH3SH	3.9	0.5	1.66	74-93-1	Tx : 25ppm
144	Methyl methacrylate(MMA)	C5H8O2	1.7	50	3.5	80-62-6	Ex : 100%LEL IR : 100%LEL Tx : 500ppm
145	Methyl silane (MMS)	CH6Si	4.3	N/A	1.59	992-94-9	Tx : 15ppm
146	Molybdenum hexafluoride	MoF6	N/A	N/A	N/A	7783-77-9	Tx : 9ppm
147	Naphthal(Petroleum Ether)	N/A	1.11	400	2.5	8030-30-6	Ex : 100%LEL
148	Nitric acid	HNO3	N/A	2	2.2	7697-37-2	Tx : 20ppm
149	Nitrogen dioxide	NO2	N/A	3	1.58	10102-44-0	Tx : 10ppm
150	Nitrogen monoxide	NO	N/A	25	1.04	10102-43-9	Tx : 100ppm
151	Nitrogen trifluoride	NF3	N/A	10	2.5	7783-54-2	Tx : 30ppm(*PY-1000) 100ppm(*PY-1000) 500ppm(*CEC)
152	Nitrous oxide	N2O	N/A	ACGIH : 50	1.53	10024-97-2	Tx : 5%VOL(*PY-1000) IR : 4000ppm
153	N-Methyl-2-pyrrolidone(NMP)	C5H9NO	1.3	N/A	3.4	872-50-4	Ex : 100%LEL(<100°C) Tx : 200ppm
154	iso-Octane	C8H18	1.1	N/A	3.9	540-84-1	Ex : 100%LEL

	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
155	n-Octane	C8H18	1	300	3.86	111-65-9	Ex : 100%LEL IR : 100%LEL
156	Octafluoro cyclobutane	C4F8	N/A	N/A	7.33	115-25-3	Tx : 200ppm(*PY-1000)
157	Octafluoro cyclopentene	C5F8	N/A	N/A	>1	559-40-0	Tx : 300ppm(*PY-1000) 2000ppm(*CEC)
158	Octamethyl cyclotetrasiloxane (OMCTS)		0.52	N/A	10.2	556-67-2	IR : 100%LEL
159	Oxygen	O2	N/A	N/A	1.1	7782-44-7	Tx : 25%VOL, 30%VOL
160	Ozone	O3	N/A	0.08	1.6	10028-15-6	Tx : 1ppm
161	n-Pentane	C5H12	1.5	600	2.5	109-66-0	Ex : 100%LEL IR : 100%LEL
162	i-Pentane	C5H12	1.4	600	2.5	78-78-4	Ex : 100%LEL IR : 100%LEL SC : 1000ppm
163	Phenol	C6H6O	1.36	5	3.2	108-95-2	Tx : 100ppm PID : 15ppm, 200ppm
164	Phosgene	COCl2	N/A	0.1	3.4	75-44-5	Tx : 1ppm
165	Phosphine	PH3	1.8	0.3	1.17	7803-51-2	Tx : 1ppm
166	Phosphorus Pentafluoride	PF5	N/A	ACGIH : 2.5mg/m3 (=0.476ppm)	N/A	7647-19-0	Tx : 6ppm
167	Phosphorus trichloride	PCl3	N/A	0.2	4.74	7719-12-2	Tx : 10ppm
168	Phosphorus oxychloride	POCl3	N/A	0.1	5.29	10025-87-3	Tx : 10ppm
169	Propane	C3H8	2.1	N/A	1.55	74-98-6	Ex : 100%LEL IR : 100%LEL
170	Propionaldehyde	C3H6O	2.6	ACGIH : 20	2	123-38-6	Ex : 100%LEL
171	n-Propyl acetate	C5H10O2	2	200	3.5	109-60-4	Ex : 100%LEL IR : 100%LEL
172	n-Propyl alcohol	C3H8O	2.1	200	2.1	71-23-8	Ex : 100%LEL IR : 100%LEL
173	i-Propyl acetate	C5H10O2	1.8	100	3.5	108-21-4	Ex : 100%LEL IR : 100%LEL SC : 500ppm
174	n-Propyl bromide	C3H7Br	4.6	25 ACGIH : 10	N/A	106-94-5	Tx : 75ppm(*PY-1000) Ex : 100%LEL
175	Propylene glycol monoethyl ether(PGEE)	C5H12O2	1.3	N/A	3.6	1569-02-4	Ex : 100%LEL IR : 100%LEL
176	n-Propyl mercaptan	C3H8S	1.8	N/A	2.6	107-03-9	Tx : 200ppm
177	Propylene	C3H6	2.4	500	1.5	115-07-1	Ex : 100%LEL IR : 100%LEL Tx : 2000ppm
181	Pyridine	C5H5N	1.8	2	2.73	110-86-1	Tx : 500ppm(*PY-1000)
182	R-410a	R125 50% , R32 50%	N/A	1000	3.0	N/A	Tx : 5000ppm(*PY-1000)
183	R-407C	R134A 52% , R125 25% R32 23%	N/A	N/A	N/A	N/A	Tx : 800ppm(*PY-1000)
184	Silane	SiH4	1.37	5	1.3	7803-62-5	Tx : 15ppm
185	Silicon tetrachloride	SiCl4	N/A	N/A	N/A	10026-04-7	Tx : 15ppm
186	Silicon tetrafluoride	SiF4	N/A	N/A	N/A	7783-61-1	Tx : 9ppm
187	Styrene(SM)	C8H8	0.9	20	3.6	100-42-5	Ex : 100%LEL IR : 100%LEL SC : 2000ppm Tx : 50ppm
188	Sulfur dioxide	SO2	N/A	2	2.25	7446-09-5	Tx : 10ppm
189	Sulfur hexafluoride	SF6	N/A	1000	5	2551-62-4	IR : 1000ppm Tx : 2000ppm(*CEC)
190	Tantalum fluoride	TaF5	N/A	ACGIH : 2.5	N/A	7783-71-3	Tx : 6ppm
191	TEOS (Tetraethyl orthosilicate)	Si(CH3O)4	1.3	10	7.22	78-10-4	Tx : 30ppm
192	Tetramethylsilane(AMS)	C4H12Si	1	N/A	N/A	75-76-3	Tx : 500ppm
193	Tert-butylbenzene	C10H14	0.8	N/A	4.62	98-06-6	IR : 100%LEL
194	Tert-Butyl Methyl Ether(MTBE)	C5H12O	1.6	50 ACGIH : 50	3	1634-04-4	IR : 100%LEL
195	Tetrafluoroethylene	C2F4	11	ACGIH : 2	3.9	116-14-3	Tx : 500ppm(*PY-1000)
196	Tetrahydrofuran	C4H8O	2	50	2.49	109-99-9	Ex : 100%LEL IR : 100%LEL Tx : 50ppm, 100ppm
197	Tetrahydrothiophene(THT)	C4H8S	1.1g/L	N/A	3.05	110-01-0	Tx : 100ppm
198	Thinner	MEK60%, Heptane 30% Toluene1.8% ...	N/A	N/A	N/A	N/A	Ex : 100%LEL IR : 100%LEL
199	Thionyl chloride	SOCl2	N/A	STEL : C 0.2	4.1	7719-09-7	Tx : 20ppm
200	Tin tetrachloride	SnCl4	N/A	2mg/m3(=0.184ppm)	9	7646-78-8	Tx : 10ppm



	Gas Name		Lower Explosive Limit(VOL%)	TLV-TWA (ppm)	Air density (AIR=1)	CAS No.	Suitable Measuring Ranges
201	Titanium(IV) fluoride	TiF4	N/A	N/A	4.28	7783-63-3	Tx : 9ppm
202	Titanium tetrachloride	TiCl4	N/A	N/A	6.5	7550-45-0	Tx : 15ppm
203	Toluene	C7H8	1.1	50	3.1	108-88-3	Ex : 100%LEL IR : 100%LEL PID : 100ppm Tx : 150ppm
204	Trichloro ethane (TCA) [Methylchloroform(R140a)]	CH3CCl3	8	350	4.63	71-55-6	Tx : 1000ppm(*PY-1000) 1000ppm(*CEC)
205	Trichloroethylene(TCE)	C2HCl3	8	10 AGGIH : 25	4.53	79-01-6	Tx : 5000ppm(*PY-1000)
206	Trichlorosilane(TCS)	SiHCl3	1.2	N/A	4.7	10025-78-2	Tx : 15ppm
207	Triethylamine(TEA)	C6H15N	1.2	2	3.5	121-44-8	Tx : 100ppm, 200ppm
208	Trifluoroacetic acid(TFA)	C2HF3O2	N/A	N/A	4	76-05-1	Tx : 50ppm
209	Trimethylamine(TMA)	C3H9N	2	5	2	75-50-3	Ex : 100%LEL(poison) IR : 100%LEL Tx : 100ppm
210	Triethylborane(TEB)	C6H15B	N/A	N/A	3.4	97-94-9	Tx : 15ppm
211	Trimethoxy boron(TMB)	B(OCH3)3	N/A	N/A	N/A	121-43-7	Tx : 75ppm
212	Trimethylsilane(TMS)	C3H10Si	1.38	N/A	N/A	993-07-7	Tx : 30ppm
213	Trisilane	Si3H8	N/A	N/A	N/A	7783-26-8	Tx : 15ppm
214	Tungsten hexafluoride	WF6	N/A	1mg/m3	10.6	7783-82-6	Tx : 6ppm
215	Vinyl acetate	C4H6O2	2.6	10	3	108-05-4	Ex : 100%LEL(poison) IR : 100%LEL Tx : 30ppm
216	Vinyl chloride	C2H3Cl	3.6	1	2.2	75-01-4	Ex : 100%LEL Tx : 30ppm
217	4-Vinyl-1-cyclohexene	C8H12	1	0.1	3.7	100-40-3	Ex : 100%LEL
218	Mixed-Xylene	C8H10	1	100	3.7	1330-20-7	Ex : 100%LEL IR : 100%LEL
219	O-Xylene	C8H10	0.9	100	3.7	95-47-6	Ex : 100%LEL IR : 100%LEL SC : 1000ppm Tx : 30ppm PID : 10ppm, 100ppm
220	P-Xylene	C8H10	0.9	100	3.7	95-47-6	Ex : 100%LEL